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ABSTRACT

This document presents a report of an experimental community service program that took place in Torrecilla Baja (Pinones), a suburban sector of San Juan, Puerto Rico, from June 30, 1971 through May 30, 1972. Students and faculty alike participated in the program, trying to develop recreational and other programs for the 1,300 underprivileged persons living in the area. The project, although not as successful as was originally hoped due to constraints of time and inadequate personnel, is deemed to have been worthwhile in the development of the students. It is felt that the students involved were able to develop a social consciousness not previously evident. In addition, a strong student-faculty relationship was formed that was beneficial to both. (HS)

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FINAL REPORT

Project N° I-B-085
Grant of Contract N° OEG-2-71-0085

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THE SOCIAL-ACTION ROLE OF THE UNIVERSITY: SAN JUAN, PUERTO RICO.

December 1972

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Office of Education

National Center for Educational Research and Development

(Regional Research Program)

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ABSTRACT

THE STUDY OF THE TORRECILLA BAJA (PIÑONES) COMMUNITY provided the means to experiment with a technique in education that surpasses mere academic exercises: the study, discussion and formulation of the real problems inherent to urban development through the direct contact with an specific community.

The procedure followed: 1) statement of educational objectives and selection of sample community; 2) complete study of the sample community by the student-teacher research team including an inventory of all available information and sources consulted, preliminary on site analysis, carrying out of a service project in the community to establish the necessary contacts, interdisciplinary ellaboration of a socio-economic survey form to gather field data, seminar on methods of approach and field data collecting, field data collecting by the research team, analysis of results and ellaboration of a Preliminary Report on the existing community conditions; 3) analysis and evaluation of the educational experience; 4) statement of conclusions.

To the teaching of the architectural discipline, the experiment outlined the urgent need to: change the educational content and processes to include real experiences as such in the pursuit of producing a more social conscious professional; innovate the student-teacher relationship to foment and exercise the team work in the formulation of the problems as well as in the quest for their solutions; take the initiative in changing the customary passive attitude of the University, as an institution, toward urban problems to a more active interdisciplinary collaboration in the pursuit of understanding the nature of these problems that concern all professions; promote a more active professional participation in closing the communication gaps between university-community-government.

FINAL REPORT

Project No. IBC85

Grant of Contract No. OEG-2-71-0085

THE SOCIAL-ACTION ROLE OF THE UNIVERSITY, SAN JUAN, P.

A Study of the Torrecilla Baja (Piñones) Community

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National Center for Educational Research and Development

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A. INTRODUCTION:

A.1 Objectives
A.2 Site where the study took place and reasons for its selection.
A.3 Outline and lenght of procedure.

A.1 OBJECTIVES

a) To experiment with a technique in education that should surpass mere academic exercises through direct contact with reality; professors and students working together in the formulation of the problems as well as with the questions and alternatives that arise-as happens in any process of investigation-altering the initial hypothesis. We define this educational technique as one of group responsibility shared by all participants.

b) To promote in students and professors the preocupation, knowledge and participation in the study, discussion and projection of the problems confronted by the community.

c) To change the customary passive attitude of the University, as an institution, toward urban problems, stimulating the social responsibility of the professionals in giving preference to community services rather than group interests.

d) To promote the cooperation and interest of teachers and students in proposed government programs involving social problems.

e) To arouse in the government agencies an attitude of support as opposed to the customary indifference or the simple rejection of the efforts of students and professors directed toward taking part in their society.

A.2 SITE WHERE THE STUDY TOOK PLACE AND REASONS FOR ITS SELECTION

The sector Torrecilla Baja (Piñones), in the municipality of Loíza, Puerto Rico, was selected for the experience. There were various reasons for this selection among which are the following:

a) The sector is located within the San Juan Metropolitan Area (its center is at a distance of 11.5 kilometers (7.2 miles) from the new San Juan Center in Hato Rey..

b) It constitutes San Juan's largest underdeveloped reserve of land (some 5,438 cuerdas, equivalent to 5,275 acres and 2,175 hectares).

c) This sector stretches 12 kilometers (8.3 miles) along the coast with numerous beaches, reefs and palm groves whose natural beauty is still intact.

d) Within this sector there are two mayor connected lagoons, which may facilitate their use for recreational purposes as well as for future transportation. Near these lagoons there are ample extensions of mangroves which would be in the public interest to preserve.

e) More than 60% of the land property in this sector, belongs to government agencies, a fact which might result in greater uniformity f the development policies which could be adopted.

f) There is a community of more than 1,300 persons in this sector, living in the most rudimentary conditions with barely any services at all. This people are descendants of liberated slaves who established themselves there over a century ago. The great ethnic homogeneity of their social composition is proof of the isolation in which they have lived in relation to other communities.

g) None of the members of this community have title to the land they occupy. Title is in the hands of the Compañía de Fomento Industrial (Industrial Development Company), a government agency which terms these dwellers as "squatters" and which is increasing its efforts to put them off the land. (There are more 50 lawsuits against families residing in the area.)

h) The president of one of the Neighborhood Associations of the community wrote to the School of Architecture and its Students Council, asking for their cooperation to work out alternative plans for the development of Piñones which wouldn't amount to the disappearance of the community.

i) There already existed a number of plans-public ones as well as private-for the development of the sector which differ substantially from one to another as far as content and scope are concerned. For this reason, as objective evaluation and comparison of these plans would be a valuable contribution toward the understanding of an urban problem of great importance and social impact.

A.3 OUTLINE AND LENGHT OF PROCEDURE

The working program was carried out from June 30, 1971 to May 30, 1972, and followed these steps:

FIRST STAGE: Survey of the area an inventory of sources of information on available data.
Lenght of time: June 30-August 17, 1971.

SECOND STAGE: Students joined the research program, Carrying on a service project for the community.
Lenght of time: August 18-September 19, 1971.

THIRD STAGE: Interdiscipplinary development of a socio-economic survey form. Seminar on strategies of a approach and field data collecting. Field data collection.
Lenght of time: September 1-October 4, 1971.

FOURTH STAGE: Laboratory work organize and analyze the collected information and data. Discussion of results with consultants.
Lenght of time: October 5-November 30, 1971.

FIFTH STAGE: Ellaboration of Piñones Preliminary Report. Discussion of Report with consultants, Incorporation of consultant's recommendations and of additional material developed.
Lenght of time: December 1-May 30, 1972

B. PROCEDURE AND RESULTS

B. 1 First Stage
B. 2 Second Stage
B. 3 Third Stage
B. 4 Fourth Stage
B. 5 Fifth Stage

B. 1 FIRST STAGE

The task of collecting available data and information on the sector and community to be studied was carried out through two simultaneous procedures: an inventory of all possible sources of information, private and official, that where to be consulted by the students, and a survey and on site examination of the physical characteristics of the area and the community, with an initial contact with the residents by visiting the principal and teachers of the Torrecilla Baja (Piñones) Elementary School.

The task allowed the teaching staff to establish the rules for the setting up of the project within the academic requirements of the third year design course of the School of Architecture of the University of Puerto Rico .

Participants: Professors Catuara, Terrassa, Caminos, Goethert.

Information Sources:	Government Agencies ; Planning Board, Industrial Development Corporation, Public Works Department-Topographical Maps Division, Parks and Recreation Administration, Land Authority, Institute of P.R. Culture, University of Puerto Rico-Planning School, Leaders of the Torrecilla Baja Community; teachers of the Torrecilla Baja (Piñones) elementary School.

B. 2 SECOND STAGE

The 28 third year architectural design students (Third Year Design-Architecture 211, School of Architecture, University of Puerto Rico) joined the research program by visiting all the inventoried sources and gathering all available information on th subject. The students visit the community of Torrecilla Baja and interview the principal and teacher of the elementary school.

Access to the community is gained through a service project: the physical rehabilitation of the elementary school by theS chool of Architecture's third year students and teaching staff.

The work on the rehabilitation of the elementary school, besides being an act of social assistance, allowed the working group to demonstrate to the community of Torrecilla Baja its concern for the problems of urban development and the seriousness with which they intented to analyze these problems.

A detailed account of the procedure for the rehabilitation of the physical facilities of the Torrecilla Baja (Piñones) elementary school is included as APPENDIX A.

Participants:	Professors Catuara, Terrassa, Iranzo; 28 third year architectural design students, teachers and employees of the Piñones school.
Advisors:	Department of Public Education University of Puerto Rico-School of Architecture.

B.3 THIRD STAGE

First Phase: The ellaboration of a socio-economic survey form that would collect specific information on the Torrecilla Baja (Piñones) Community, permitted an intensive interdisciplinary collaboration between professionals of different university disciplines. A collaboration that established indispensable contacts for future projects of such a scope.

An example of the socio-economic survey for ellaborated is included as APPENDIX B.

Second Phase: Strategy of approach and field data seminary. The adquisition of the specific training in strategies of approach and field data collecting needed for this stage of the study, gave the participating students a clearer scope of the investigate processes necessary for the formulation of urban development proposals.

Third and Fourth Phases; During this phase of the THIRD STAGF the students put to use the trining and knowledge they had acquired in the seminar.

The difference between the ghird and fourth phase consist in the number of the students in the working team and the change in approach that had to be implemented to cope with the problems that arouse during this latter phase of the THIRD STAGE.

A detailed account of the procedure and events follows.

The localization of the houses within the Torrecilla Baja Community does not follows a fixed orderly pattern that would allow an interviewer find his way around it easily. To accomplish any results in the in interviewing phase, it became necessary to establish a way of identifying the housing units. A system of numbering the houses was finally decided upon by the participating faculty.

This solution was not the most advisable, but the only one feasible within the time apportioned to this phase.

To collect an acceptable socio-economic sample, the consultants suggested interviewing 50% of the families in the community. The interviewed were selected by drawing the houses. The students, divided in 14 groups of two students to each group, were to interview for families per group.

With enough anticipation and through the students of the Torrecilla Baja Elementary School, all the families in the community received a circular explaining the purpose of the survey and announcing the visits to the chosen families by the student interviwers.

Prior to the interviewing date, the participating faculty and a student representation visited a well attended meeting of the Parents and Teachers Association of the local elementary school. At this meeting it was explained once again, the purpose of the study and a general description of the contents of the questionaire was given.

Unfortunately, up to this phase of the study and due mainly to a lack of additional time to investigate the community deeper, the working group had not fully obtained a complete understanding of the political aspects within the community and the personal political motivations of many of the leaders the group had made contact with.

By the time the interviewing phase commenced, the legal proceedings against the community, being taken up in court by the government agency that claimed ownership to the land where the community stood, took a very critical aspect making the community loose faith in the court's objectivity to solve their property claims

The numbering of thehouses and the presence of the interviewers in the community added to the general feeling of unrest. The participating faculty and students where pointed out as representatives of a government institution (the University of Puerto Rico is government supported) and the team's intentions questioned by some leaders. A strong opposition to the socio-economic survey rapidly spread. It did not help matters when some of the participating students, not trained to handle a problem as such, reacted negatively to the events.

Even though meetings were inmediately held with the opposing leaders, it was understood by the working team that to the community, their land claims mattered more than the purposes of the study. The high level of political saturation and the incomprehensible intellectualy academic concepts of the work did not allowed to reach a satisfactory agreement between the working team and the community.

Consequently, it was necessary to reduce the number of participating students to a number of 8 highly interested ones, and proceed with the interviewing of only those families that were willing to be interviewed.

The limitation of time upon the smaller group of interviewers only permitted the completion of 31 interviews of the required 55 as suggested by the participating consultants,

The contents of the surveying questionaire were broaden to include photographs and measurements of the visited housing units.

As a final aspect of this phase, the accesses to the community, the recreational areas, the substructure and other important elements that fully described the substandard condition of the community, were photographed,

The remaining 20 students returned to the academic classroom to work in a design projectof new educational facilities for the Torrecilla Baja Community. The experience acquired during the SECOND STAGE of the experiment proved of important relevance in the programming and solution of this academic excersice.

Participants:	Professors Catuara, Terrassa; 28 third year architectural design students; Members of the Torrecilla Baja Community.
Consultants:	University of Puerto Rico-School of Social Work, Social Studies Department (Sociology Department, Center of Social Investigations); Professor Sandra Quiñones; Professor Oscar Marty

B.4 FOURTH STATE

The task of tabulating the gathered data, analysing it and transfering the results to descriptive graphics was done by the working team during the weeks that followed the conclusion of the field survey.

A faculty representative and a student representative travelled to the Massachusetts Institute of Techonology to present the results of the survey and discuss the academic accomplishments with the consultant professors Horacio Caminos and Reinhard Goethert.

Participants: Professors Catuara,
Terrassa, Marty
& third year architectural design students:

Consultants: Massachusetts Institute of Technology professors Horacio Caminos and Reinhard Goethert.

B. 5 FIFTH STAGE

First Phase: With the recommendations of the consultants, the working team then developed the Piñones Preliminary Report which was used as the basic discussion paper for subsequent development of the study. This Report was distributed to participating consultants of the study for their recommendations and comments.

Second Phase: Presentation of the Piñones Preliminary Report to the consultants professors Horacio Caminos and Reinhand Goethert at the M.I.T. Campus. A through discussion of the results and conclussions followed. Upon these recomendations architect Stehphan Bukojenmschy joined the working team to make a complete and through analysis of all the proposals, private and official, made during the past ten years for the Torrecilla Baja area.
During the return trip, a copy of the Piñones Preliminary Report was presented to Dr. John Sokol, at The New York Office of Education of the U.S. Department of Health, Education, and Welfare.

The Piñones Preliminary Report is included as APPENDIX C.

Bukojemsky's analysis of all the proposals made during the past ten years for the Torrecilla Baja are is included as APPENDIX D.

Participants: Professors Catuara, Terrassa, 8 third year architectural design students.

Consultants: Professors Caminos, Goethert, Marty, Mr. Bukojemsky

C. FINDINGS AND EVALUATIONS

C.1 First Stage
C.2 Second Stage
C.3 Third Stage
C.4 Fourth Stage
C.5 Fifth Stage

C.1 FIRST STAGE

On the aspects relating to the inventory of all possible sources of information that were to be consulted by the students during the SECOND STAGE, it was found that:

The duplication of efforts and existing jealousy between government agencies produces excessive amounts of irrelevant data which requires additional time, to that stipulated for the stage, in order to sort through the material.

A distrust of the academic work of the University in research matters impedes direct access to important information.

Not being aware of the degree of political commitments in each of the agencies to be visited obstaculizes the process of obtaining the available material much quicker.

By determining in advance the problem areas, the faculty avoided its students time consuming efforts to get the necessary information and the accompanying discouragement that affects them easily when lack of cooperation prevails.

On the task of surveying the community to be studied and making the initial contact with its leaders, it was found that:

If not well acquainted with the whole spectrum of the relationships between a marginated community and the government agencies, the outmost care in establishing the first contacts within the community is not enough to develop a basic trust between the community and the research team.

The University, whether government supported or not, is generally identified with Government. Consequently its faculty and students, find at the beginning an attitude of distrust and lack of cooperation that make communication and compilation of information very difficult.

The basic distrust and defensive attitudes of a marginated community toward the work of Government, keeps the residents of such a community unaware of any proposals for the development of their area. Distortion of information given is a common aspect. Community leaders in many instances are poorly informed about the important issues and local politicking quite often obstaculizes any serious discussion of long term proposals.

A high level of objectivity must be maintained regarding the information that is being collected. This requires extreme alertness and on going analysis through the researh process.

The time limit established for the compilation of basic information within the community conflicted with the slow process of communication which was being carried out. Due to this time pressure and in order not to demonstrate an exagerated interest in the internal problems of the community, since they were forced to increase the frequency of their visits, the faculty members had to require of themselves a more detailed and careful planning of the content and procedure of each new interview.

C.2 SECOND STAGE

On the academic aspects relating to the task done by the students in the compilation of the information and data inventoried by the faculty, it was found that:

Students, and particularly those in the architectural discipline, acquire an excellent insight and understanding of the functions of each particular government agency, directly or indirectly responsible for the planning of our cities, and of government as a whole, through an experience as such.

On the academic aspects of the project for the rehabilitation of the Torrecilla Baja elementary school, it was found that:

Architecture students are highly motivated and very anxious to participate in projects where real customers are involved (in this case the teachers and employees of the school) no matter how simple the level of actual participation would eventually be.

For Architecture students to get acquainted with real architectural problems in which they are in contact with the real user or client (specially in dealing with housing problems), and recognize their individual limitations in formulating a work plan that must be carried out, organize in working teams to accomplish a real architectural task in a limited time, and to carry out the work that has been previously formulated on paper as an academic problem, is a richer and most positive learning experience that nany weeks on a drafting table.

An experience as such should be considered more often in the teaching of the architectural discipline.

The faculty can establish a more real relationship with their students in a project as such. They get acquainted with the capacities and limitations of their students when dealing with real architectural problems.

On the social aspects of the project for the rehabilitation of the Torrecilla Baja elementary school, it was found that:

The lack of previous experiences or a mature insight of the problems that will arise from an experience as such will very easily cause serious problems of communication between different socio-economic levels.

To offer work without apparent remuneration, to allow or foment paternalistic attitudes or to accept as a fact the apparent relationships between members of the community very often produce instances of friction that the working team will have to take the blame for.

Underestimating the influence of community associations and relegating them to a secondary position after the apparent community leaders will definitely impair the prompt establishment of contacts within the community.

The working team will be identified politically with the school administration in any project closely related to that institution.

A student well trained in the expectations of a social project as the one developed will gain positively from the experience of being in contact with the limitations and needs of a socio-economic level different from his own. To the architectural practice in Puerto Rico this is of utmost importance since the highest percentage of projects an architect will be handling once in the profession will be projects dealing with lower income socio-economic groups.

C.3 THIRD STAGE

On the academic aspects of the ellaboration of a socio-economic survey questionaire by an interdisciplinary faculty team it was found that:

At the University level there is a marked absence of collaboration between disciplines, a continuous duplicity of efforts, and a serious unacquaintance with the physical and intelectual facilities available in each faculty.

The ellaboration of the socio-economic survey questionaire definitely established the interdisciplinary contacts for future collaboration in projects of similar scope at the School of Architecture.

The participating consultants acquired an understanding of the problems of the physical aspects of the architectural discispline as related to the investigative aspects of the sociological discipline. The socio-economic survey form that was finally produced established a precedent at the University for future investigation of architectural aspects within a sociological content.

Even though the contents of the survey form utilized are of excellent quality, its format resulted extremely detailed, extensive and difficult to utilize without arousing a certain uneasiness in the person to be interviewed.

On the academic aspects of the seminar offered to train the participating students in the methods of strategy of approach and field data collecting, it was found that:

To the architectural discipline, the investigative aspects are of great importance as a basic step in the design process. Understanding the nature and basic concepts of the investigative process through seminars given by professionals of other concerned disciplines proves to be a most positive step in the teaching of Architecture.

The seminar in the THIRD STAGE of the study permitted the autocriticism and evaluation of the approach methods and attitudes utilized by students and faculty alike in their original approach to the community. This evaluation proved to be a very good educational experience.

On the academic aspects of the field data collecting process, it was found that:

To put into practive the knolwdge and training learned from the theoretical aspects of education is one of the most positive experiences in the learning of any discipline. It completes the cycle of education.

On the technical aspects of the field data collecting in relation to the reduction in nunber of the participating students in the work team, in was found that:

Even though this reduction was translated into an increase in the number of interviews to be done by each team of students, the continuous presence in the community of the same eight students gained them the confidence of the interviewed that permitted more detailed and complete interviews persons anf facilitated the task of photographing and measuring the houses and lots.

The motivation and dedication of a smaller group of really interested students results in a more efficient team work.

A smaller group of students is exposed to a larger number of experiences. This allows an improvement and sophistication of the approach methods being utilized and a more efficient evaluation of the results being obtained. The way the real experience is more complete.

C.4 FOURTH STAGE

On the academic aspects of organizing, analysing and presenting the results of the gathered field data, utilizing an applied methodology or work, it was found that:

The team work required by such a task develops a high degree of initiate and responsibility in the students since the efficiency of the final results depends greatly on the level of individual participation; it excercises the teachers in the new educational techniques within the frame work of a very positive student-teacher relationship and generates the correct environment for teachers and students together to round up the educational experience.

Transferring the results to descriptive graphics, exercises the Architecture students in an aspect of their discipline.

From the FOURTH STAGE the students involved acquire a more comprehensive understanding of the nature and importance of the investivative aspects of the process of Design.

C.5 FIFTH STAGE

Project evaluation and editing of the final report:

After the preparation of the *Piñones Preliminary Report* the faculty and the students had the opportunidty to learn and put into use, the basic elements necessary for the documentation and presentation of an informative report that contained the results of the investigation perfomed. Consultant's recommendations, additional information obtained and the author's own corrections were incorporated to the Report producing adjustments in the graphic and Literary documentation. The process is concluded with the elaboration and printing of the *Piñones Final Report*.

D. CONCLUSIONS AND RECOMMENDATIONS

D.1 Introduction
D.2 General Results
D.3 Conclusions
D.4 Recommendations

D.1 INTRODUCTION

Today's University, as the institution that bridges the gap between the generalities of a basic elementary education and the particulars and detailed skills of a profession, is being forced to be constantly concerned with the actualization of its teaching methods to cope with the educational crisis that is being caused by the ever changing complexities of the modern technical world.

The rate at which man's technical knowledge is expanding makes it difficult for any institution of higher education to provide its students with all the available tools to grasp the present day realtities. Time and again, the new mwthods of teaching, in their approach, are being forced to work primarily with the development of the student's initiative and social responsability to formulate the problems and work with the questions and alternatives that arise toward finding concrete solutions.

This initiative can only be adquired, and the social responsability fully accepted, when rhe student steps out away from the security of the academic classroom and exercises the putting into real practice of the newly acquired knowledge. In the involvement with the real problems the students are given the opportunity to understand the true complexities of the present society, the importance of team work, and their actual place as participant members of that working society long before they will be practicing their professions. This premature experiencing of the professional realities will also given them the opportunity to evaluate their talent and disposition for the career they have chosen.

Because of the critical population explosion the world is experiencing all over, the conventional role of the architects as all around artist and designer is being obscured by an advancing mass production technology that is complying with the human material needs for housing, transportation, etc., at a quick pace with a faceless Architecture and chaotic urban solutions.

As a consequence of this confrontation between sensivity and monotonous mass technology, the teaching of the architectural profession is being forced to reevaluate and reorient itself. Architectural curriculums have been expanded at all institutions of higher education to make room for the enlarged panorama of technical aspects pressuring the profession, but this is only a temporary solution until the complexity of the social problem is fully understood.

A very important aspect that has been accepted by those involved in the search for the solutions to the crisis in the teaching of the changing architectural profession is that the new production methods are fullfilling the basic human material needs at an economically feasible rate of production. At the academic level, the roots of and differences between the hypothetical and real basic human needs must be quickly understood.

The need for the Architecture student to step out of the academic classroom and get involved in the understanding of the nature of the actual community needs by participating with the community in real learning experiences is becoming urgent.

Based on this premise, the Torrecilla Baja (Piñones) Study was ainmed at excersising and measuring the actual possibilities of such a real learning experience within a community as a mean of expanding the scope of the architectural teaching methods.

D.2 GENERAL RESULTS

In the functional aspects the experiment turned to be very hazardous and at many instances frustrating because the working team of students and professors was ill prepared to cope with all the difficulties that arouse as the process developed. This was largely caused by an extreme and continuous limitation of time to gather and analyze all the information needed for the establishment of the foundations from which to launch each stage of the experiment. The limitations of time were the consequence of the pressure exerted upon the project by the academic requirements of a conventional semester course.

In the academic aspects the experiment proved to be very rewarding because the participating students acquired a better understanding of: the scope of their profession, its limitations and real possibilities; the role of each and all the government agencies concerned with the solution of urban problems, their limitations and possibilities; the need for the members of the community to participate in the formulation of the problems and the finding of the solutions; the importance, potencialities and limitations of the team work with members of different professions and disciplines; the gaps between academically hypothetical and real problems and solutions; the exercise of an applied problem solving methodology; the need for a more active participation by the University in the solution of urban problems.

Among the results of the experience in the academic aspects, it will be pointed out as significant, the development of a very positive attitude that generated the necessary initiative to promote new educational activities in the Schools of Architecture, Planning, and Social Sciences of the University of Puerto Rico. (See APPENDIX E)
These activities made possible the creation of an elective interdisciplinary course that studied, through team work in the field and laboratory, the problem of the urban squatter settlements in the metropolitan Area of San Juan.

In the social aspects the experiment left very positive results: personnal criteria and academic hypothesis on the functioning and behavior of the low income groups were put through a strainer by the student leading into the acquisition of a new real insight of the structure of individual social problems that build up the communal basic needs; the experience of becoming the pivots for real social action gave the students a sense of mature responsability and individual initiative; the students and the community in their working together for the solution of a hand problems learned of the many possibilities that social projects as such are capable of providing; the will of the community to solve their own problems (the Torrecilla Baja community is well known for communal action in their own problem solving) was strengthened by this social experience; the unavoidable widespread publicity that was given to the project helped in the general public understanding of the urban problems of marginated communities as the one chosen for the experiment.

D.3 CONCLUSIONS

This project of investigation reaffirmed the following criteria:

D.3.1 A higher university education must act simultaneously towards producing a clear and sensitive conscience (knowledge); towards producing the correct attitudes useful to the strenghening of the social values; and towards the material skills of the specific discipline as vehicle for the fullfillment of the social function of each profession.

D.3.2 The university's educational output must aim at the positive transformation of the cultural and social system, of the cultural and social products, of the individual and his social content, so that it will directly transform its students and faculty, and indirectly, our society and its products.

D.3.3 The development of these acts of educational output make necessary the acquisition of a program of interaction between the university and the community it must serve. The methodology applied to the process must include a rigorous evaluation of the expected and obtained results, aimed at the objective utilization of the rational and material resources available.

D.3.4 It must be an implicit objective of all educational projects, the recognition of the importance of integrating the different areas of knowledge. This will properly prepare the students for the adequate interpretation of the social factors and the interdisciplinary relations that will allow the best answer to the needs of a determined program.

D.3.5 The rapid growth of our cities' populations require the materialization of new urban spaces and facilities that will provide shelter for all the human activities. These spaces will only be obtained when the technology, economics, design theories and methods, and the interpretation of the traditions are utilized to satisfy the social coherence of the whole. The answer is to be found through a process of investigation that must be structured to contain as center of production, not an academic classroom, but a research organism that provides the continuity and economic backing so necessary to develop the skills of the specific aspects of the profession.

D.4 RECOMMENDATIONS

From the general results of the educational experience and the conclusions previously stated, it will be necessary to emphasize the urgent need to establish research structures that will allow the continuity of the investigative processes devoid of limitating academic requirements such as those in the conventional educational structure.

The adequate organism to structure and give continuity to the research work and develop theoretical foundation for students and faculty education-research programs is an Institute of Housing attached to the School Of Architecture at the University of Puerto Rico.

It will be a fundamental task of the proposed Institute of Housing:

1) Survey of all problems and solutions found in housing systems in Puerto Rico, include public and private developments, that because of their nature, will allow results serving as a frame of reference.

2) The study of land uses and the design of housing elements and their infrastructure, not as independent prototypes, but as facts correctly fitted into a context.

3) To promote approaches to other fields of knowledge for a better understanding with methods, points of view and evaluation criteria of other disciplines involved in the study of urban growth and the environment problems.

The obtained results will be published to be used as dialogue vehicles for the interaction with similar research organisms for a better handling of more complex situations and to develop a common language to discuss alternatives presented to optimize those results.

APPENDIX A

REPORT ON THE WORK DONE
THE PHYSICAL REHABILITATION OF
THE TORRECILLA BAJA (PIÑONES)
ELEMENTARY SCHOOL OF THE
MUNICIPALITY OF LOIZA, PUERTO RICO

October 14, 1971

Architecture 211 - Architectural Projects, Third Year Design

Professors Osvaldo J. Catuara, Juan A. Terrassa

REPORT ON THE WORK DONE IN THE PHYSICAL REHABILITATION OF THE TORRECILLA BAJA (PIÑONES) ELEMENTARY SCHOOL OF THE MUNICIPALITY OF LOIZA, PUERTO RICO

The third year architectural design class is carrying on a research project in the Torrecilla Baja community. During the initial visits to the area, it was observed that the physical facilities of the local elementary school were in evident need of general repairs.

During a visit to the teacher in charge, Mrs. Vitalina Barreto Rodríguez, professors Catuara and Terrassa confirmed that in the physical installations, available teaching material and dining hall facilities, the elementary school was in urgent need of material collaboration for the better attention of their 273 students.

Mrs. Barreto explained that the school only receives the periodic assistance of the Parents Association and of a friendly nearby Lion's Club, who are helping in the construction of a new wood classroom.

On the first day of September, a long meeting was held with the the school principal, Mrs.Aurea Acosta, who outlined the most urgent needs. She explained that the school has not received assistance from the Department of Education for many years because there has always been plans for the school's relocation. The dining hall, kitchen, kitchen storeroom, and several of the existing classrooms has been built by the Parents Association during the last few years.

Mrs. Acosta invites professors Catuara and Terrasa to visit her District School Superintendent, Mrs. Ana Picart, for an approval on the collaboration proposal.

Mrs. Picart was visited in her office in Canóvanas, Puerto Rico, where she expressed her enthusiastic approval of the Schools of Architecture's project, and authorized the execution of any work directed towards the betterment of the existing Piñones school facilities.

On September 7, the 28 third year design students visited the area and the school facilities where Mrs. Acosta received them cordially and proceeded to answer all questions pertaining to the functioning of the elementary school. A second meeting was held on September 10 with all the teachers and dining hall employees to accord a work program. Two members of the Parents Association were also present at the meeting.

The 28 students then proceeded to divide themselves into teams to distribute the work and assume responsibilities. The composition of the teams was as follows:

Team 1 (3 students) - Drawing as built plans of the school facilities
Team 2 (2 students) - Ellaboration of a master plan for the rehabilitation proposal
Team 3 (4 students) - Reorganization and improvement of dining hall facilities
Team 4 (6 students) - Design and construction of school furniture and equipment
Team 5 (6 students) - Ellaboration of graphic teaching material
Team 6 (4 students) - School grounds improvement
Team 7 (3 students) - Donations Committee

The problems that were considered of most urgency and that could be solved or bettered were:

1. The exterior and interior painting of the buildings.
2. A water fountain for the 273 students.
3. Repairing of the roof and walls of the Principal's office.
4. Reorganization of the kitchen equipment and construction of new shelving.
5. Shelving and reorganization of the kitchen storeroom.
6. Design and construction of furniture for science classroom.
7. Design and construction of shelving, bulletin boards and closets for classrooms.

8. Electrical installation in kitchen.
9. Design and construction of some basic children's games for the school yard.
10. Elimination of dangerous coconut trees in the school yard.
11. General landscaping of the school yard.
12. Graphic teaching material for all academic courses.

The week between the 13th and 20th of September was chosen for the carrying on of the proposed work. Most of the work was finished during that time including the painting of a 300 square feet mural. Two record players and a 10 cubic feet refrigerator were donated to the school facilities.

The activities at the Torrecilla Baja elementary school were officially finished at a meeting of the Parents and Teachers Association where the donations were presented to the school.

APPENDIX B

SURVEY FORM UTILIZED IN THE INVESTIGATION OF THE SOCIO-ECONOMIC CHARACTERISTICS OF THE TORRECILLA BAJA (PIÑONES) COMMUNITY

The survey form was ellaborated by an interdisciplinary team.

UNIVERSIDAD DE PUERTO RICO
ESCUELA DE ARQUITECTURA
RECINTO DE RIO PIEDRAS

ARQUITECTURA 211 - Curso 1971-72 - Profs. Catuara y Terrassa
Proyecto: ANALISIS DE LOS ASPECTOS SOCIO-ECONOMICOS DE LA
COMUNIDAD DE PIÑONES, MUNICIPIO DE LOIZA, PUERTO RICO.

ENTREVISTA #............
al Sr(a)..
Dirección..

Entrevistador(es)..

1- LOS HABITANTES

1.1. EL JEFE DE FAMILIA:

1.1.1. Sexo:
- a masculino
- b femenino

1.1.2. Edad:
- a 20-24
- b 25-29
- c 30-34
- d 35-40
- e 40-44
- f 45-49
- g 50-54
- h 55-59
- i 60 o más

1.1.3. Estado civil:
- a soltero/a
- b casado/a
- c separado/a
- d divorciado/a
- e unión consensual

1.1.4. Ocupación actual:
- a ninguna
- b completa
- c parcial
- d temporal

1.1.5. Clase de trabajo actual.................................
....

1.1.6. Lugar del trabajo......................................
....

1.1.7. Cómo viaja al trabajo ?:
- a carro propio
- b guaguas públicas
- c carros públicos
- d a pie
- e otros........................
  ....

1.1.8. Historia ocupacional últimos cinco años:

a fechas.....................
posición.....................
sueldp.......................
razón para dejar el empleo...........................
....

b fechas.....................
posición.....................
sueldo.......................
razón para dejar el empleo...........................
....

c otros cambios de empleo (detallar)..................
....
....
....

1.1.9. Nivel de educación:
a grados 1 2 3 4 5 6 7 8 9 10 11 12
b diploma Escuela Superior
c graduado universitario..........................

1.1.10. Dónde vivía antes ?:................................
....

1.1.11. Tiempo que lleva residiendo aquí:
a 5 años o menos c entre 10 y 20 años
b entre 5 y 10 años d más de 20 años

1.1.12. Qué le motivó a mudarse aquí ? ....
....

1.1.13. Hay algún miembro de esta familia trabajando en E.U.
a sí b no

1.1.14. Cuánto tiempo hace que se fué ?
a menos de 5 años c 10 años o más
b 5 a 10 años

1.1.15. Por qué razón se mudó a Estados Unidos ?
a razones económicas (trabajo)
b razones familiares
c otras ....

1.2. COMPOSICION FAMILIAR:

a. parentesco b. edad c. sexo d. aportan al mantenimiento ? e. cuánto?

1...
2...
3...
4...
5...
6...
7...
8...
9...
10..
11..
12..
13..
14..

1.2.1. Asistencia de los niños a la escuela:
a. edad b. sexo c. dónde? d. transportación
1...
2...
3...
4...
5...
6...
7...
8...
9...
10..

1.3. ORGANIZACION DE LA COMUNIDAD:

1.3.1. Existe alguna asociación de vecinos? si no

1.3.2. En caso afirmativo, ¿Cual es su opinión sobre ella?
....
....

1.3.3. Nombre a 3 personas que usted considera importantes y activas en la comunidad:
1 ....
2 ....
3 ....

1.3.4. Qué opinión tiene de la comunidad en general ?
a que es unida y está progresando
b que no está unida por la política
c que no progresa y la gente se va

1.3.5. ¿ Algún miembro de su familia pertenece activamente a alguna asociación o agrupación:
1. política
2. social
 a en la comunidad donde vive
 b escuela
 c trabajo
 d otros

1.3.6. ¿ Dónde efectúan las compras ? ....
....

1.3.7. ¿ Van a alguna diversión fuera de casa ?:
a dónde?.......................................
b frecuencia...................................

1.3.8. Cuando alguien se enferma ¿Quién lo cura?:
a la mamá o alguien de la familia
b una persona de la comunidad que sabe de esto
c el médico

1.3.9. ¿ Visita la comunidad algún médico ?: ....
a. con qué frecuencia ? ....
b. dónde atiende ? ....

1.3.10.¿ Recibe la comunidad algún servicio del municipio?
....
....

1.3.11.¿ Quién trajo la luz y el agua a la comunidad ?.....
....
....

1.3.12.¿ Quién se osupa de que se mejoren los caminos ?....
....
....

1.3.13.¿Qué usted piensa sobre el futuro de esta comunidad?
....
....

1.3.14.¿Ha escuchado usted de planes del gobierno para el desarrollo de este sector?........................
....
....

2 - NIVEL ECONOMICO

2.1. LA VIVIENDA:

2.1.1. ¿A quién pertence el terreno donde tiene ubicada su casa? (además de cualquier otra construcción)
- a público
- b privado
- c propio

2.1.2. En el caso de ser el ocupante dueño del solar, tiene títulos de propiedad debidamente registrados ?:
a si b no

2.1.3. Si alquila ¿Cuánto paga de renta mensual?...............

2.2. BIENES DE LA FAMILIA:

2.2.1. Tiene automóvil (carro) ?
a si b no
c marca................ d año..............
e valor................

2.2.2. ¿Algún otro vehículo? (detallar).........................
....
....

2.2.3. Si posee:
- a televisión
- b radio
- c tocadiscos
- d lavadora de ropa
- e estufa (eléctrica) (gas)
- f nevera

2.2.4. Si posee:
- a área de siembra
- b gallinas (indicar cantidad)................
- c caballos (" ")................
- d cerdos (" ")................
- e vacas (" ")................
- f otros.....................................

2.3. SI TIENE LA FAMILIA NEGOCIO PROPIO:
- a localización ....
- b valor que estima ....
- c tipo de negocio ....

2.4. INGRESOS FAMILIARES POR CONCEPTO DE:
- a por trabajo: $ ....
- b ayuda Servicios Sociales: $ ....
- c Seguro Social: $ ....
- d Veteranos : $ ....
- e Otro tipo de compensación:............... $ ....

A BASE DE LA INFORMACION DETERMINE EL ENTREVISTADOR SI EL INGRESO TOTAL DE LA FAMILIA, ANUALMENTE, ES DE:
- 2.4.1. menos de 1,000 dólares
- 2.4.2. entre 1,000 y 3,000 dólares
- 2.4.3. entre 3,000 y 5,000 dólares
- 2.4.4. entre 5,000 y 8,000 dólares
- 2.4.5. más de 8,000 dólares anuales

3 - CARACTERISTICAS DE LA VIVIENDA:

3.1. LA VIVIENDA ES:
- a propia
- b alquilada

3.1.1. ¿Cuánto le costó o cuánto cree usted que puede valer la casa en que vive ?..........................

3.2. AREA DEL SOLAR (estimar)..................................

3.3. TIENE EL SOLAR ACCESO PARA CARROS ? ....

3.4. EL SOLAR TIENE ACCESO DIRECTO O A TRAVES DE OTROS?..........

3.5. AREA DE LA VIVIENDA (estimar)..............................

3.6. NUMERO DE CUARTOS Y SU AREA APROXIMADA:
- 3.6.1. sala ....
- 3.6.2. comedor.................
- 3.6.3. dormitorios (cuántos?)..............................
- 3.6.4. cocina (describir)..................................
  ....
- 3.6.5. baño (describir)....................................
  ....
- 3.6.6. otros (detallar)....................................

3.7. AREA DE VIVIENDA POR OCUPANTE...............................

3.8. NUMERO DE CUARTOS POR PERSONA...............................

3.9. MATERIALES DE CONSTRUCCION UTILIZADOS (%):
- 3.9.1. madera ....
- 3.9.2. madera y zinc.............
- 3.9.3. bloques y zinc............
- 3.9.4. bloques y madera..........
- 3.9.5. bloques y hormigón........
- 3.9.6. hormigón.................

3.10. TIPO DE CONSTRUCCION:
- 3.10.1. autoconstrucción...........
- 3.10.2. artesano..................
- 3.10.3. pequeño contratista.......
- 3.10.4. prefabricada..............

3.11. FACILIDADES:
- 3.11.1. agua ....
- 3.11.2. electricidad.....................................
- 3.11.3. cómo elimina las aguas negras ?..................
  ....

3.12. COMENTARIOS DEL ENTREVISTADOR SOBRE LA CONDICION GENERAL DE LA VIVIENDA, SU ESTADO DE CONSERVACION, EQUIPAMIENTO, ETC..

....

....

....

....

....

....

....

4 - OBSERVACIONES GENERALES

5 - COMENTARIOS

por ....
firma del entrevistador(es)

fecha:..

APPENDIX C

PIÑONES PRELIMINARY REPORT

INFORME PRELIMINAR

PIÑONES

ESTUDIO DE UNA COMUNIDAD

ESCUELA DE ARQUITECTURA - UNIVERSIDAD DE PUERTO RICO - RECINTO DE RIO PIEDRAS - Año 1971

OBJETIVOS

ESTUDIO SOBRE EL DESARROLLO FUTURO DE LA COMUNIDAD TORRECILLA BAJA (PIÑONES) UBICADA EN EL AREA METROPOLITANA DE SAN JUAN, PUERTO RICO.

Este es un trabajo preliminar que solo representa la etapa de reconocimiento del problema. El material que lo documenta podrá servir de base adicional para la discusión de las metas, criterios y prioridades que debieran orientar la opción que finalmente se tome.

Nuestro objetivo inmediato ha sido tomar conciencia de las tensiones que genera el desarrollo urbano, en especial en aquellos sectores que se sienten o son, efectivamente, marginados por el poder público y privado en la etapa de decisiones finales del proyecto.
Para ello escogimos como medio el contacto directo con la realidad de los hechos físicos y humanos del sitio en procura de una relación activa entre universidad y comunidad.

Nuestro objetivo a largo plazo es desarrollar técnicas de educación que fomenten en estudiantes y profesores, la preocupación, el conocimiento y la participación vital en los problemas de la comunidad, brindando una positiva cooperación con los organismos de gobierno y evaluando o proponiendo opciones para el mejor uso y disfrute de los recursos naturales, económicos y humanos del país.

Torrecilla Baja representa un testimonio vivo y actual de la multiplicidad de conflictos, frustraciones y recelos que se originan cuando los intereses de los pobladores que serán afectados por el desarrollo, no coinciden con los intereses de quienes tienen el poder para implementarlo.

Nuestra elección de la comunidad de Torrecilla Baja, más conocida como Piñones, fué decidida cuando la Escuela de Arquitectura recibió la formal solicitud del presidente de una de las asociaciones vecinales del sector, gestionando la participación universitaria en la búsqueda de mejoras permanentes para el área y exponiendo la inquietud de los residentes ante la creciente evidencia de haber sido excluídos en los planes de desarrollo que han ido trascendiendo en los últimos tiempos.

6 de diciembre de 1971
Escuela de Arquitectura, Universidad de Puerto Rico.

RECONOCIMIENTO

Los datos incluídos en este informe provienen de:

- -Agencias del Gobierno de Puerto Rico: Junta de Planificación, Departamento de Obras Públicas, Compañía de Fomento Industrial, Administración de Renovación Urbana y Vivienda, Departamento de Instrucción Pública, etc.
- -Universidad de Puerto Rico: Centro de Investigaciones Sociales, Escuela de Planificación, Escuela de Arquitectura.
- -Instituto de Cultura Puertorriqueña.
- -Oficina del Censo, Washington, D.C.
- -Servicios Legales, Inc.
- -Maestras y empleadas de la Escuela Pública Piñones.
- -Entrevistas y reuniones con vecinos de la comunidad.

El ordenamiento en la exposición del informe está basado en las recomendaciones y metodología aplicada por el Prof. Horacio Caminos, cuyos trabajos y los de algunos de sus colaboradores del Instituto de Tecnología de Massachusetts han sido utilizados como guía.

La encuesta socio-económica fué elaborada sobre antecedentes del Centro de Investigaciones Sociales brindados por el Dr. Jaime Toro Calder y su contenido final fué revisado y ajustado por la Prof. Sandra Quiñones del Colegio Regional de Bayamón, quien nos asesoró sobre estrategias a emplear en el trabajo de campo y en la evaluación de las muestras obtenidas.

La ayuda económica para esta investigación proviene de la Escuela de Arquitectura de la Universidad de Puerto Rico y del subsidio I-B-085 otorgado por la Oficina de Educación de los Estados Unidos.

Todo el material que documenta este trabajo, ha sido elaborado entre el 15 de agosto y el 30 de noviembre de 1971, en parte como descargo de las tareas académicas correspondientes al curso Arquitectura 211 y el resto mediante dedicación adicional de tiempo.

Prof. Osvaldo Catuara
Prof. Juan Alberto Terrassa

Todo el material gráfico, fotografías, diagramas y recopilación de información corresponde a los estudiantes de Arquitectura 211, Raúl Mouriño, Zydnia Colón, Francisco Cepero, Medardo Estrada, Manuel Fernández, Wilfredo Quiñones, Jeffrey Sarvis, Felipe Viscasillas y René Acosta.
Colaboraron también en la etapa de campo los estudiantes Luis Arias, Angel Capllonch, Jorge Carbonell, Osvaldo Catinchi, Carlos Collazo, Guillermo Colom, Dharma Delgado, Pascual Febus, Luis Huertas, Pedro Juan, Pablo Maldonado, Héctor Mercado, José L.Ramírez, José R.Ramírez Alberto Rechany, Ana Sotolongo, Antonio Suarez, Reinaldo Torres y Pedro Tosado y los profesores Antonio Miró, Oscar Marty y Juan Iranzo.

SINOPSIS

CONDICIONES ESPECIALES DEL SECTOR PIÑONES.

- Torrecilla Baja es la zona mas extensa sin desarrollar dentro de la Zona Metropolitana de San Juan y de belleza natural "intacta".
- Comunidad establecida desde aproximadamente un siglo atrás, la cual está sujeta a posible erradicación por agencias gubernamentales.
- Hay intereses públicos y privados para el desarrollo del sector, tales como areas recreativas y areas turísticas o residenciales, respectivamente.

SITIO:
- El sector se denomina Torrecilla Baja, pero se conoce popularmente como "Piñones".
- Pertenece al Municipio de Loiza y está comprendido dentro de la Zona Metropolitana de San Juan.
- El punto medio de todo el sector se halla a una distancia de 11.5 kilometros (7.5 millas) del propuesto Nuevo Centro de San Juan, en Hato Rey.

AREA:
- La superficie total es de 5,438.75 cuerdas (2,175.20 hect.)

LIMITES:
- Al Norte, el Oceano Atlantico; al Oeste, el sector Boca de Cangrejos y el Aeropuerto Internacional de Isla Verde; al Este, el Rio Grande de Loiza; al Sur, el Municipio de Carolina, cuya linea de colindancia, atraviesa las lagunas de La Torrecilla y la de Piñones.

ACCESOS:
- Hacia el Oeste, se conecta con San Juan mediante la carretera de Isla Verde. Hacia el Este, el camino principal llega hasta el Rio Grande de Loiza, el cual solo se puede atravesar en una vieja balsa movida a mano.

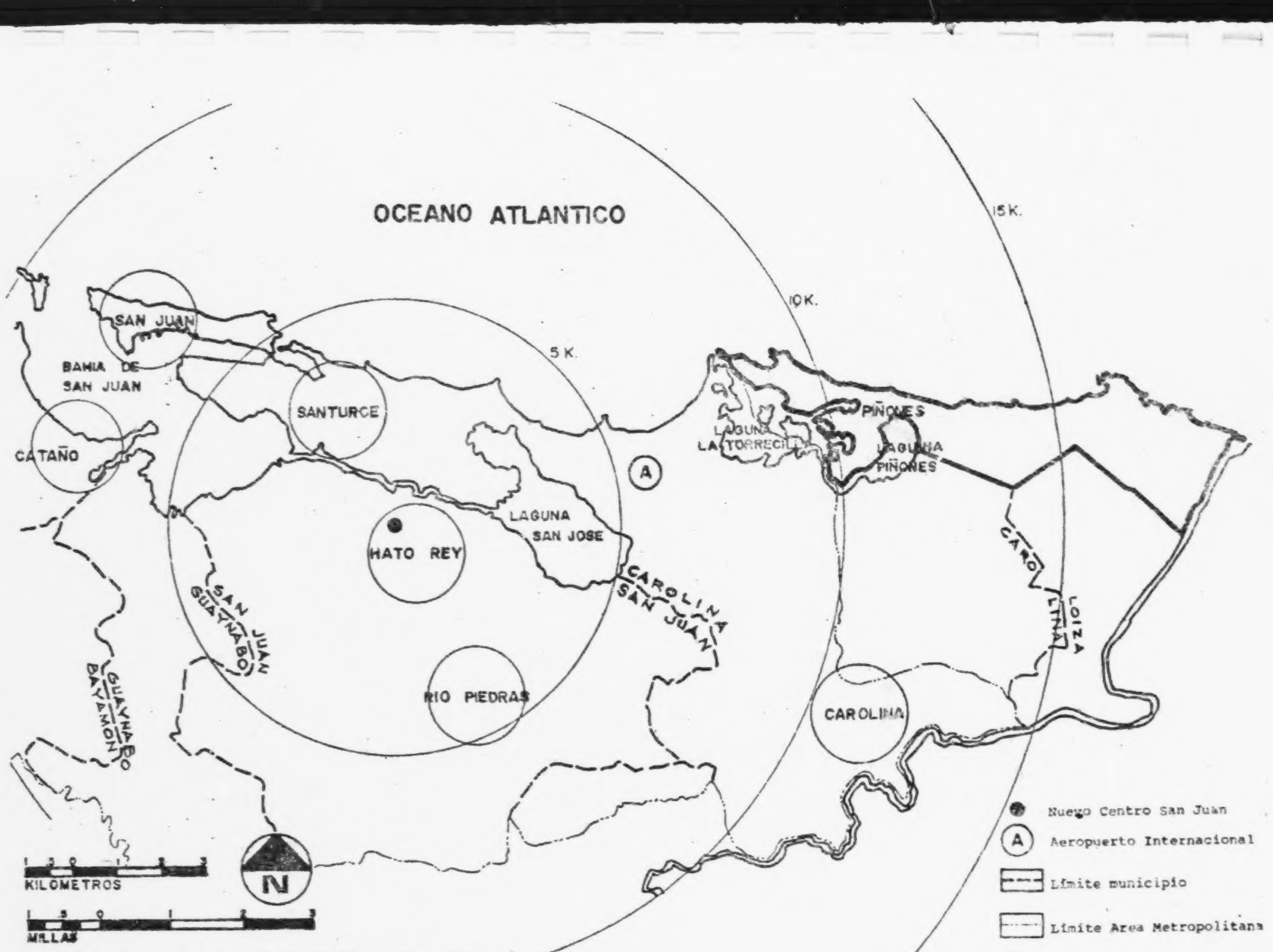
POBLACION:
- Según el censo de 1970, viven en el sector 199 familias, o sea, aproximadamente 1,232 personas (casi todos de la raza negra).
- Hay dos núcleos poblacionales; "La Torre", en el extremo Oeste del sector, y "Piñones", el mas denso, entre la laguna del mismo nombre y el mar. Unas quince familias viven completamente aisladas de los núcleos indicados.

CARACTERISTICAS DEL LUGAR:
- Extenso litoral de playas.
- Costa variada y de gran belleza natural, formando bahias con arrecifes, cayos y dunas.
- Abundancia de palmas de coco y extensos manglares.

CONDICION DEL SUELO:
- Terreno llano con leves ondulaciones al nivel del mar, con condiciones pobres del subsuelo debido a la extensión de las zonas pantanosas.
- Casi todo es inundable, su drenaje natural lo constituye el Rio Grande de Loiza.

PROPIEDAD DE LA TIERRA:
- Aproximadamente 3,500 cuerdas son de dos corporaciónes públicas; la Autoridad de Tierras y la Compañia de Fomento Industrial.
- Aproximadamente 1,000 cuerdas pertenecen a una corporación hotelera.
- 911 cuerdas (aprox.) son reclamados por la Compañia de Fomento Industrial. Estas tierras contienen los asentamientos en estudio.

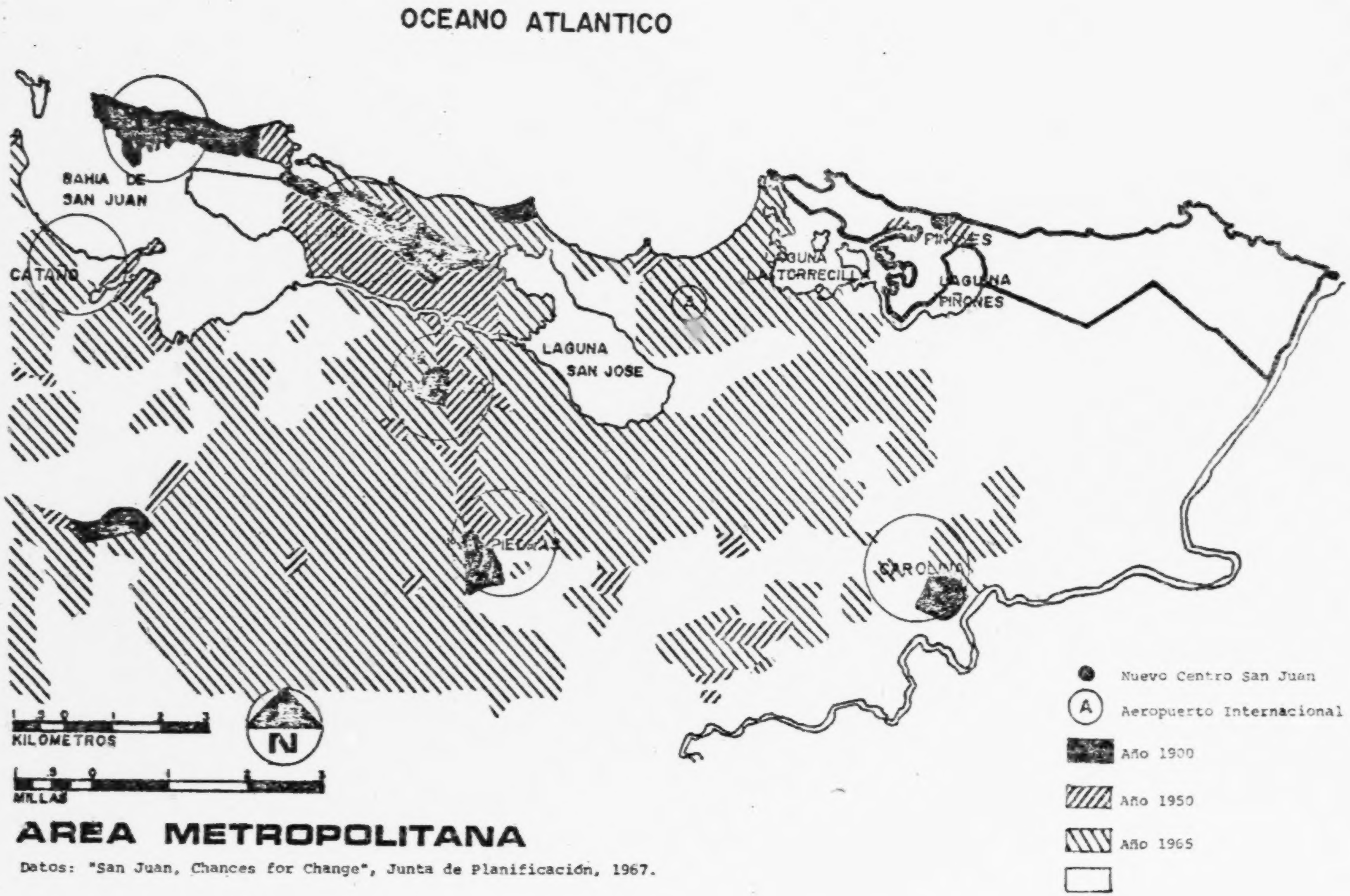
INFRAESTRUCTURA:
- Torrecilla Baja pertenece, pero no recibe servicios del Municipio de Loiza.
- No hay alumbrado público, recolección de basura, teléfono, correo, servicio de salud ni alcantarillado.
- La red de agua y electricidad fué obtenida por gestión directa y en parte el costeo de los mismos pobladores. Un 30% de las viviendas siguen dependientes de fuentes públicas para el suministro de agua potable.
- El camino principal, de tierra, que atraviesa el sector de Este a Oeste, bordeando la costa, no recibe otro mantenimiento que el realizado por los pobladores por propia cuenta. Esto se hace imprescindible durante los meses de octubre y noviembre en que las periódicas marejadas cortan el camino entre La Torre y Piñones.
- El sector tiene escuela pública elemental y una pequeña estacion de Policias.
- No hay transportación pública dentro del sector, estando en Boca de Cangrejos la parada de autobuses mas próxima.


OCEANO ATLANTICO
5 K.
10K.
15K.
SAN JUAN
BAHIA DE SAN JUAN
CATAÑO
SANTURCE
HATO REY
LAGUNA SAN JOSE
RIO PIEDRAS
SAN JUAN
GUAYNABO
GUAYNABO
BAYAMON
CAROLINA
SAN JUAN
A
LAGUNA LA TORRECILLA
PIÑONES
LAGUNA PIÑONES
CAROLINA
CAROLINA
LOIZA
KILOMETROS
MILLAS
N
Nuevo Centro San Juan
Aeropuerto Internacional
Limite municipio
Limite Area Metropolitana
EL SECTOR ANALIZADO

AREA METROPOLITANA

Datos: Plan Regional Area Metropolitana de San Juan, Junta de Planificación, 1965.

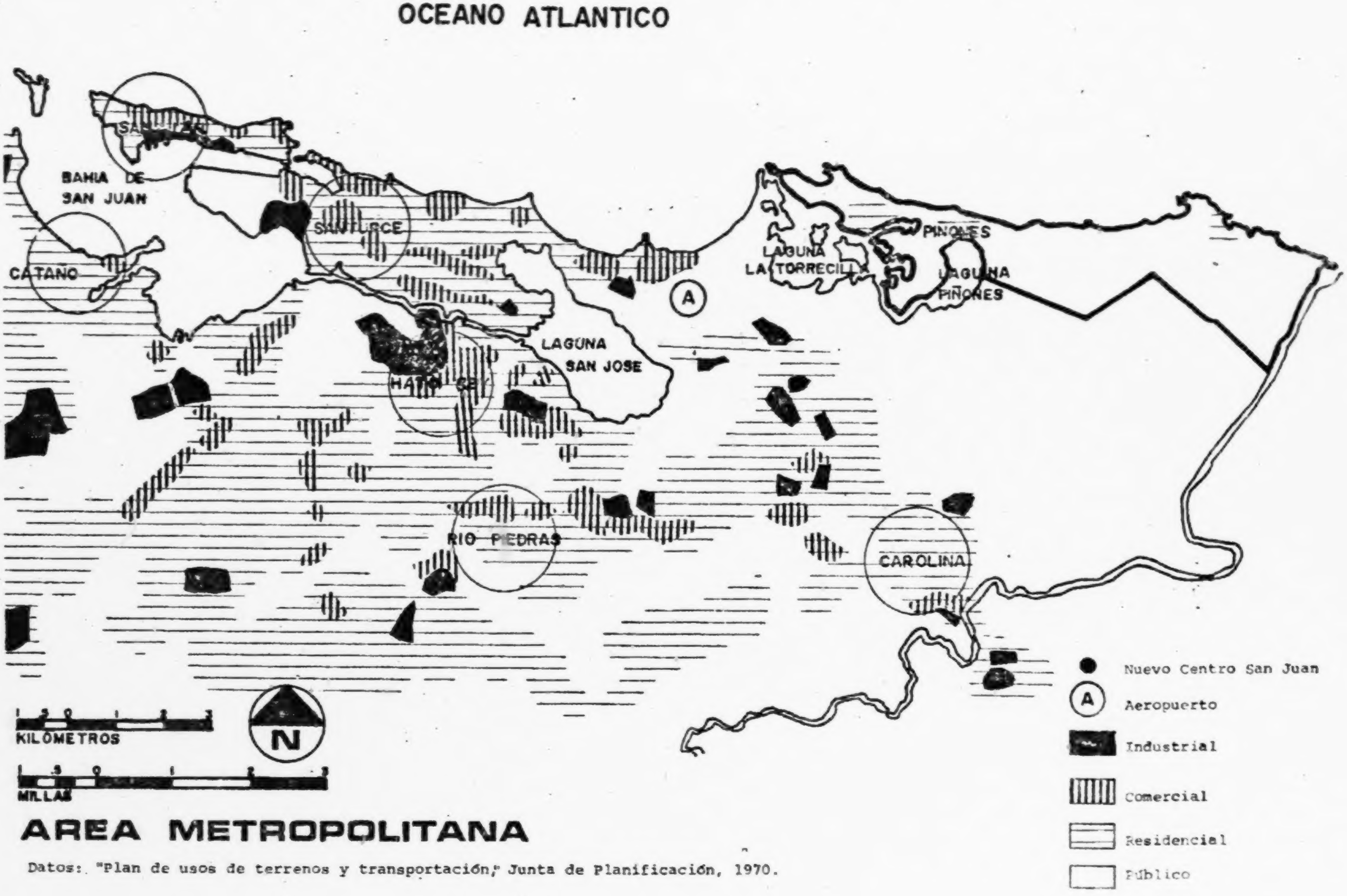
CRECIMIENTO URBANO


OCEANO ATLANTICO
BAHIA DE SAN JUAN
CATAÑO
LAGUNA SAN JOSE
A
LAGUNA TORRECILLA
PIÑONES
LAGUNA PIÑONES
PIEDRAS
CAROLINA
KILOMETROS
MILLAS
N
● Nuevo Centro San Juan
Ⓐ Aeropuerto Internacional
Año 1900
Año 1950
Año 1965

AREA METROPOLITANA

Datos: "San Juan, Chances for Change", Junta de Planificación, 1967.

USO DE LA TIERRA 1963


OCEANO ATLANTICO
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BAHIA DE SAN JUAN
CATAÑO
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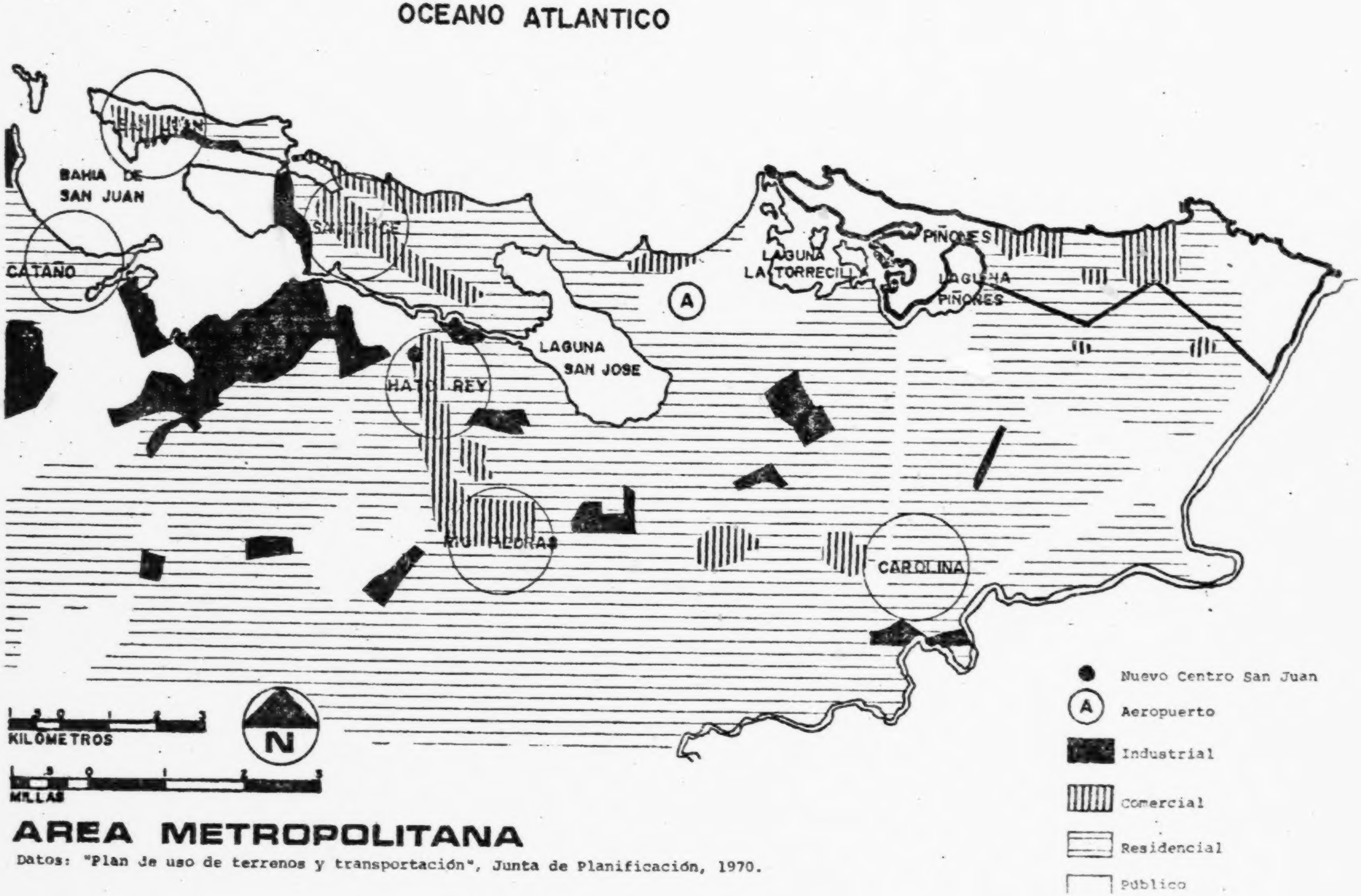
HATO REY
LAGUNA SAN JOSE
A
LAGUNA LA TORRECILLA
PIÑONES
LAGUNA PIÑONES
RIO PIEDRAS
CAROLINA
KILOMETROS
MILLAS
N
AREA METROPOLITANA
● Nuevo Centro San Juan
Ⓐ Aeropuerto
Industrial
Comercial
Residencial
Público

Datos: "Plan de usos de terrenos y transportación," Junta de Planificación, 1970.

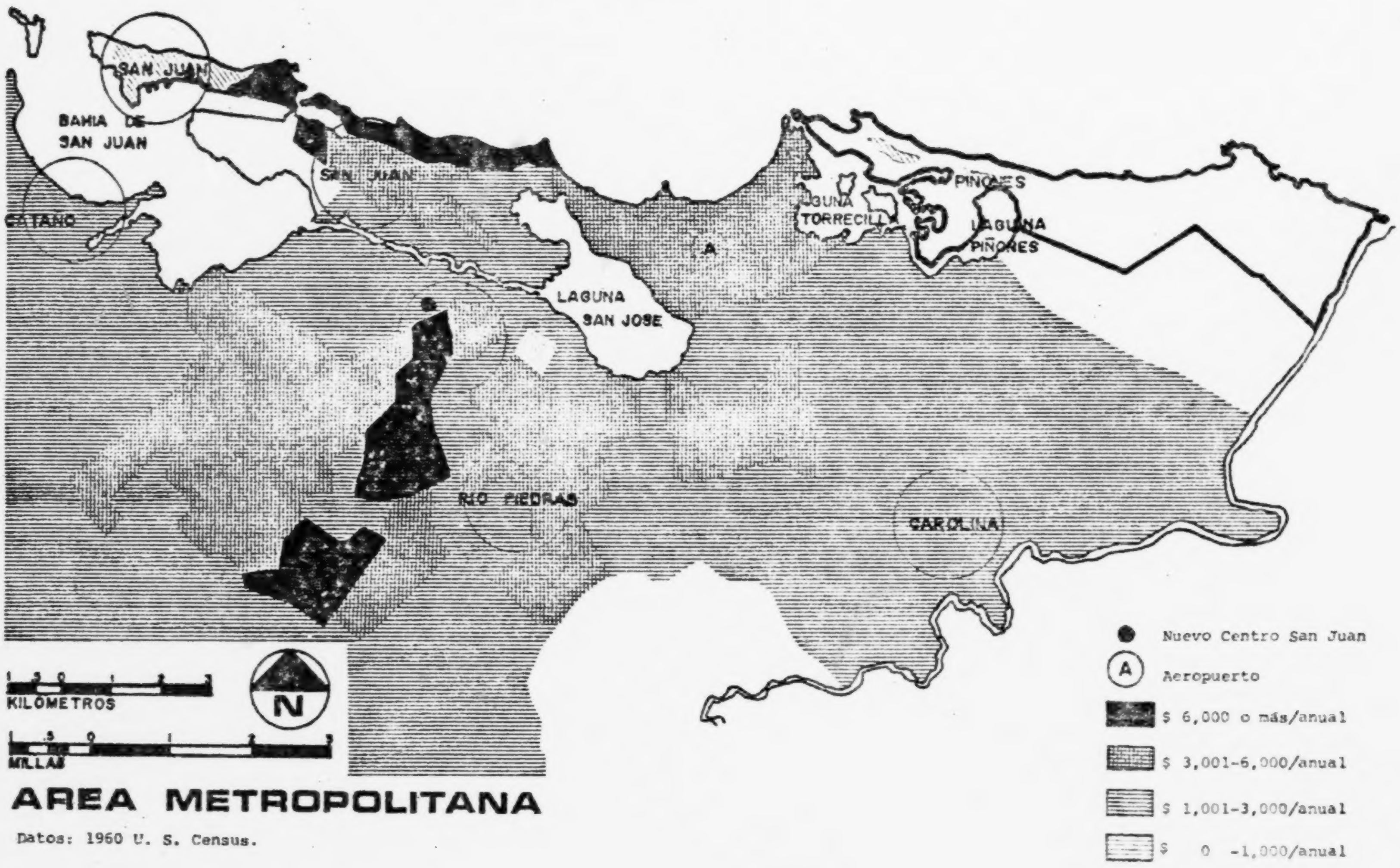
USO DE LA TIERRA 1985


OCEANO ATLANTICO
SAN JUAN
BAHIA DE SAN JUAN
CATAÑO
SANTURCE
HATO REY
RIO PIEDRAS
LAGUNA SAN JOSE
A
LAGUNA LA TORRECILLA
PIÑONES
LAGUNA PIÑONES
CAROLINA
KILOMETROS
MILLAS
N
● Nuevo Centro San Juan
Ⓐ Aeropuerto
Industrial
Comercial
Residencial
Público

AREA METROPOLITANA

Datos: "Plan de uso de terrenos y transportación", Junta de Planificación, 1970.

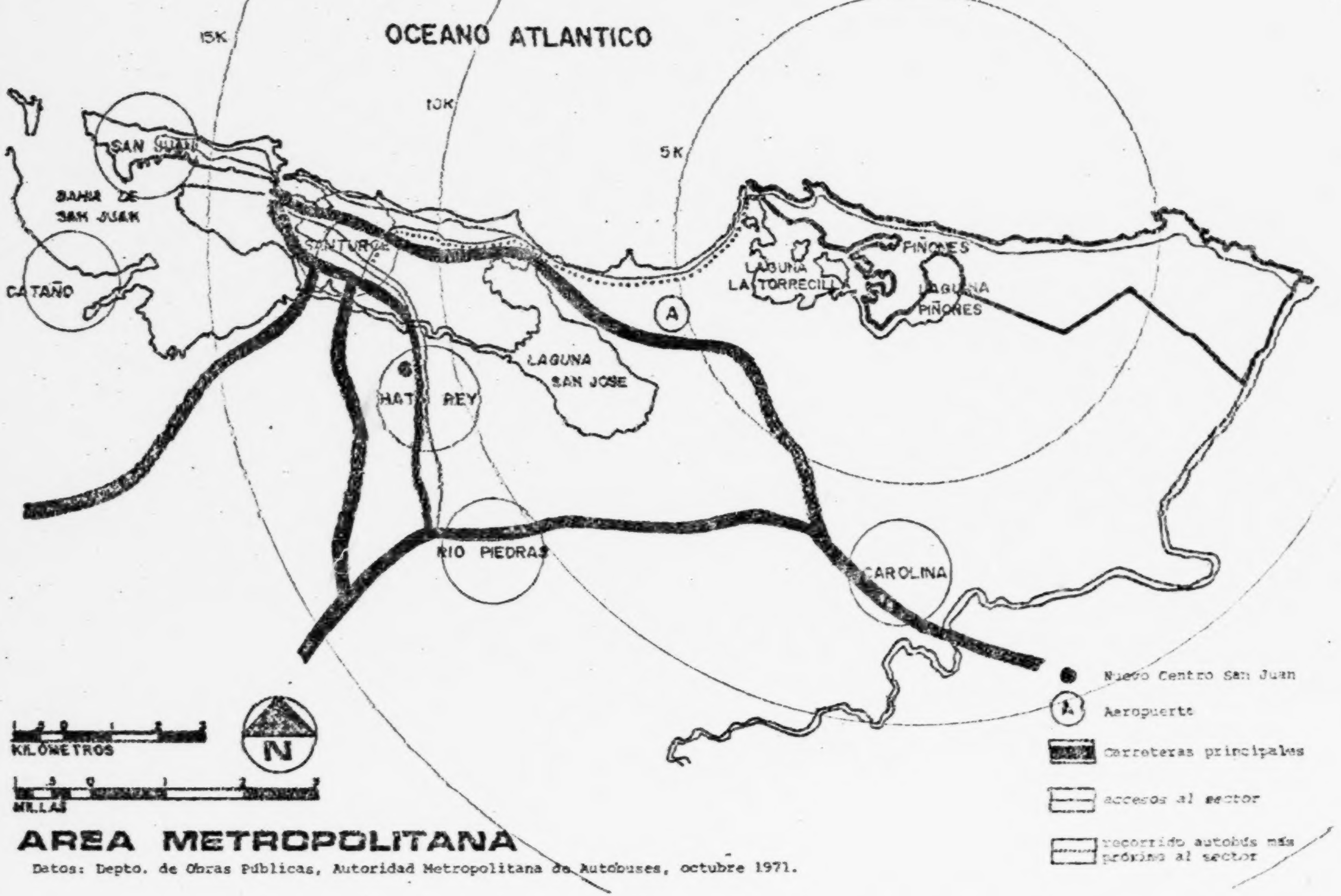
INGRESO POR FAMILIA


OCEANO ATLANTICO
SAN JUAN
BAHIA DE SAN JUAN
CATAÑO
SAN JUAN
LAGUNA SAN JOSE
A
LAGUNA TORRECILLA
PIÑONES
LAGUNA PIÑONES
RIO PIEDRAS
CAROLINA
1 .5 0 1 2 3
KILOMETROS
1 .5 0 1 2 3
MILLAS
N
● Nuevo Centro San Juan
(A) Aeropuerto
▩ $ 6,000 o más/anual
▦ $ 3,001-6,000/anual
▤ $ 1,001-3,000/anual
▨ $ 0 -1,000/anual

AREA METROPOLITANA

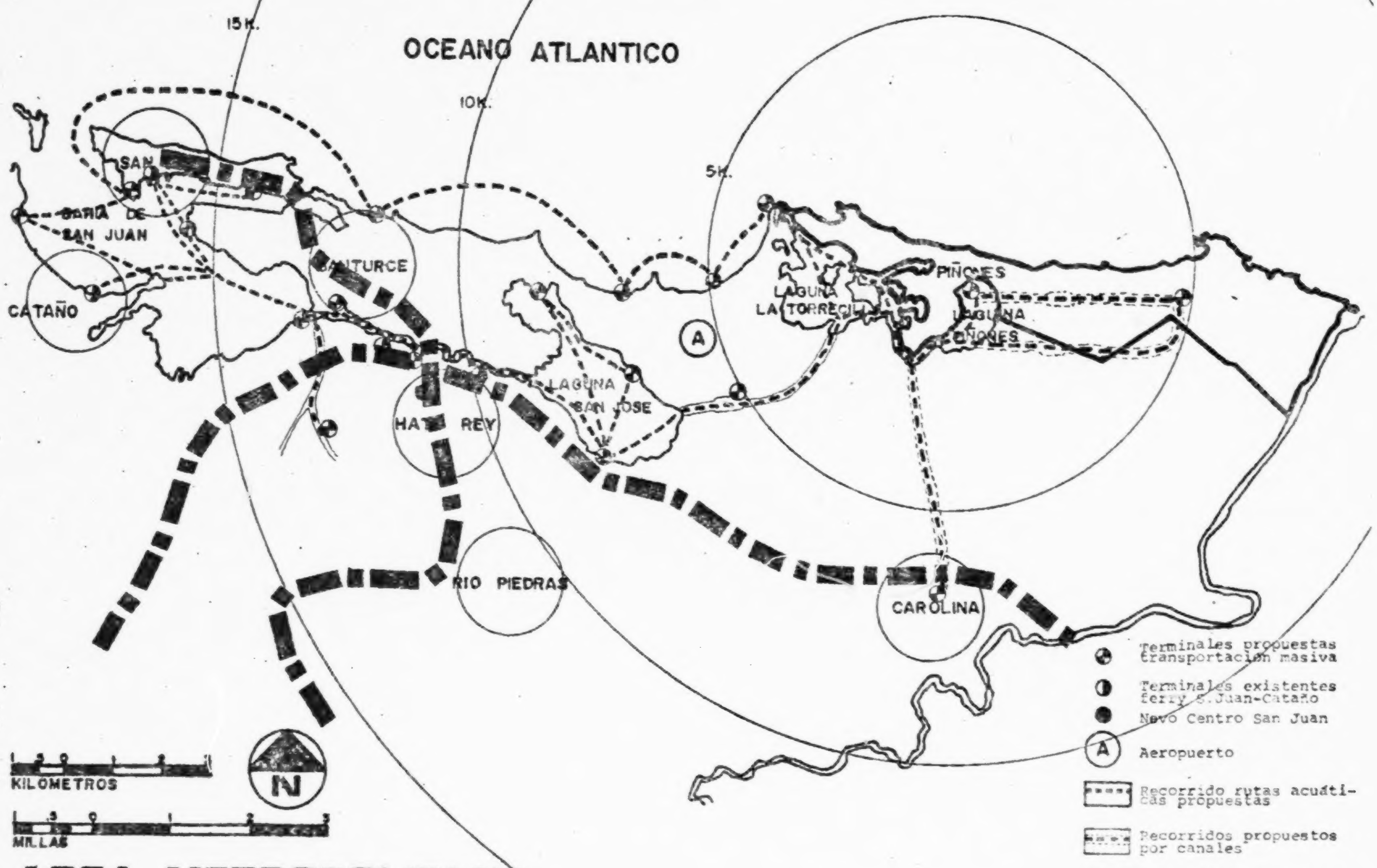
Datos: 1960 U. S. Census.

TRANSPORTACION EXISTENTE


OCEANO ATLANTICO
15K
10K
5K
SAN JUAN
BAHIA DE SAN JUAN
CATAÑO
SANTURCE
HATO REY
LAGUNA SAN JOSE
A
LAGUNA LA TORRECILLA
PIÑONES
LAGUNA PIÑONES
RIO PIEDRAS
CAROLINA
KILOMETROS
MILLAS
N
AREA METROPOLITANA
● Nuevo Centro San Juan
A Aeropuerto
Carreteras principales
accesos al sector
recorrido autobús más próximo al sector

Datos: Depto. de Obras Públicas, Autoridad Metropolitana de Autobuses, octubre 1971.

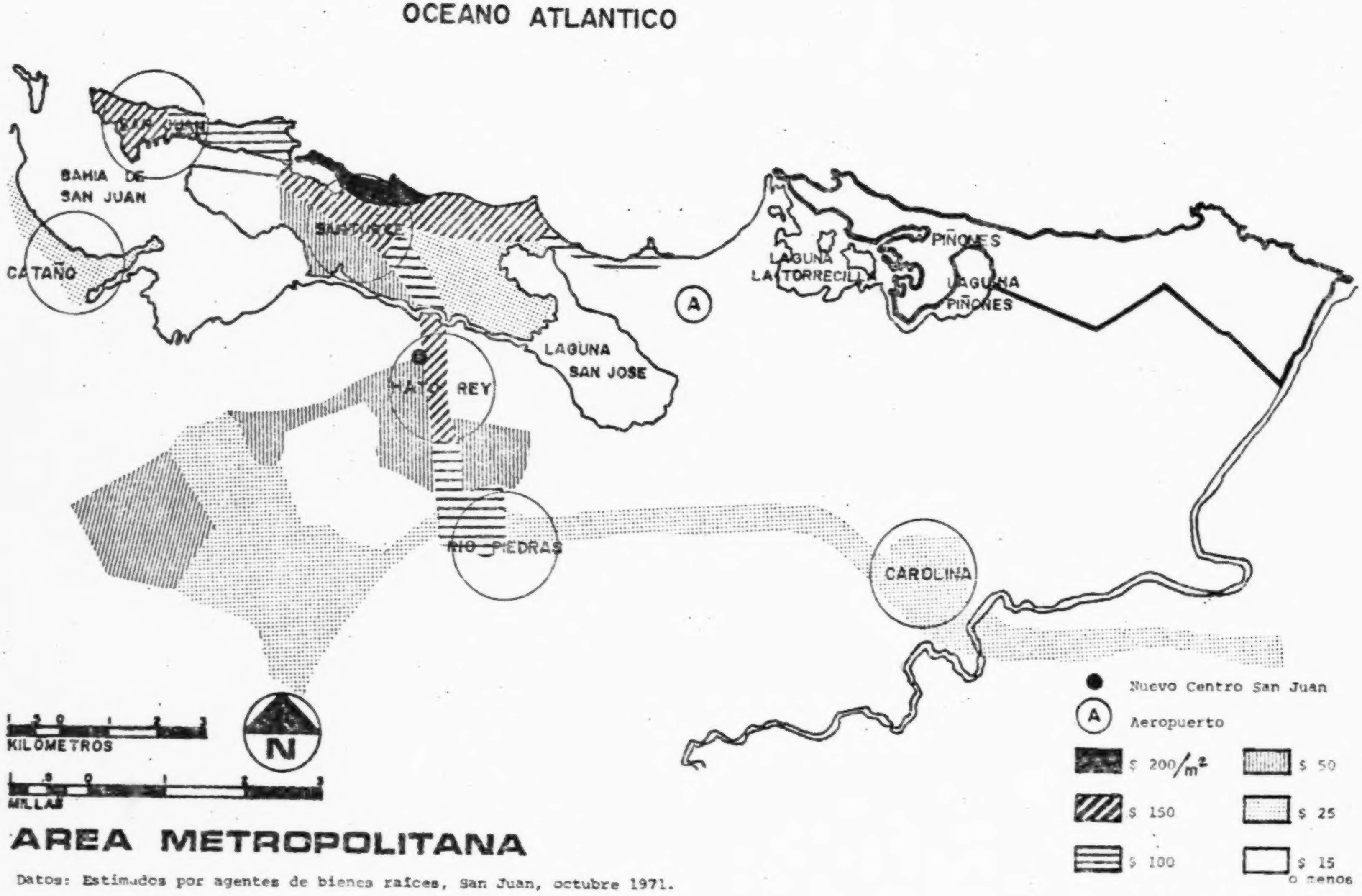
TRANSPORTACION PROPUESTA


15K.
10K.
5K.
OCEANO ATLANTICO
SAN JUAN
BAHIA DE SAN JUAN
CATAÑO
SANTURCE
HATO REY
RIO PIEDRAS
LAGUNA SAN JOSE
A
LAGUNA LA TORRECILLA
PIÑONES
LAGUNA PIÑONES
CAROLINA
KILOMETROS
MILLAS
N
Terminales propuestas transportación masiva
Terminales existentes ferry S.Juan-Cataño
Nevo Centro San Juan
Aeropuerto
Recorrido rutas acuáticas propuestas
Recorridos propuestos por canales
Recorridos propuestos sistema terrestre de transportación masiva

AREA METROPOLITANA

Datos: Propuesta de transportación acuática, Depto. de Obras Públicas, 1971.
Propuesta de transportación en masa Plan 1985, Junta de Planificación, 1970.

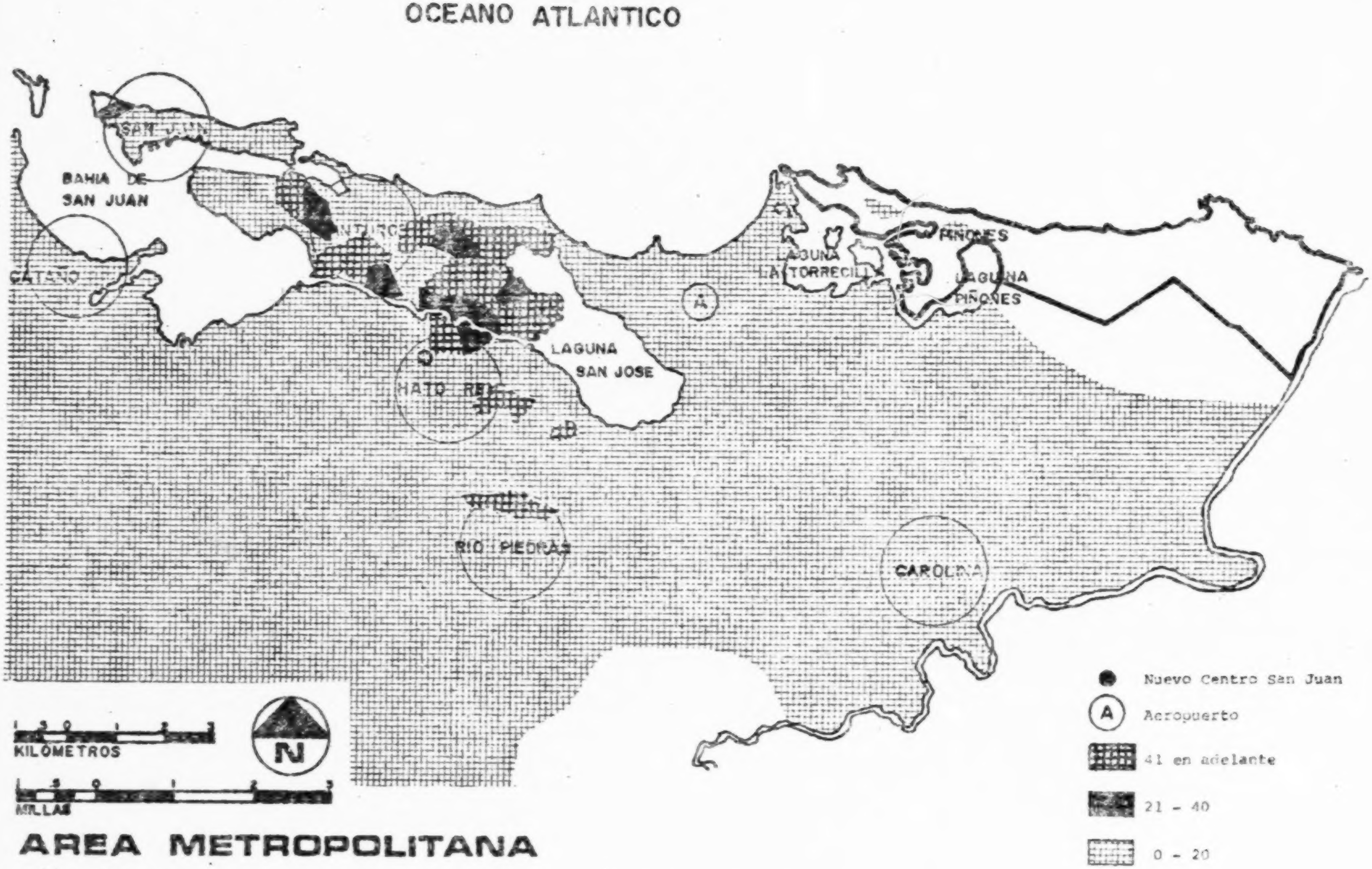
VALOR DE LA TIERRA


OCEANO ATLANTICO
SAN JUAN
BAHIA DE SAN JUAN
CATAÑO
SANTURCE
HATO REY
RIO PIEDRAS
LAGUNA SAN JOSE
A
LAGUNA LA TORRECILLA
PIÑONES
LAGUNA PIÑONES
CAROLINA
KILOMETROS
MILLAS
N
Nuevo Centro San Juan
Aeropuerto
$ 200/m²
$ 150
$ 100
$ 50
$ 25
$ 15 o menos

AREA METROPOLITANA

Datos: Estimados por agentes de bienes raíces, San Juan, octubre 1971.

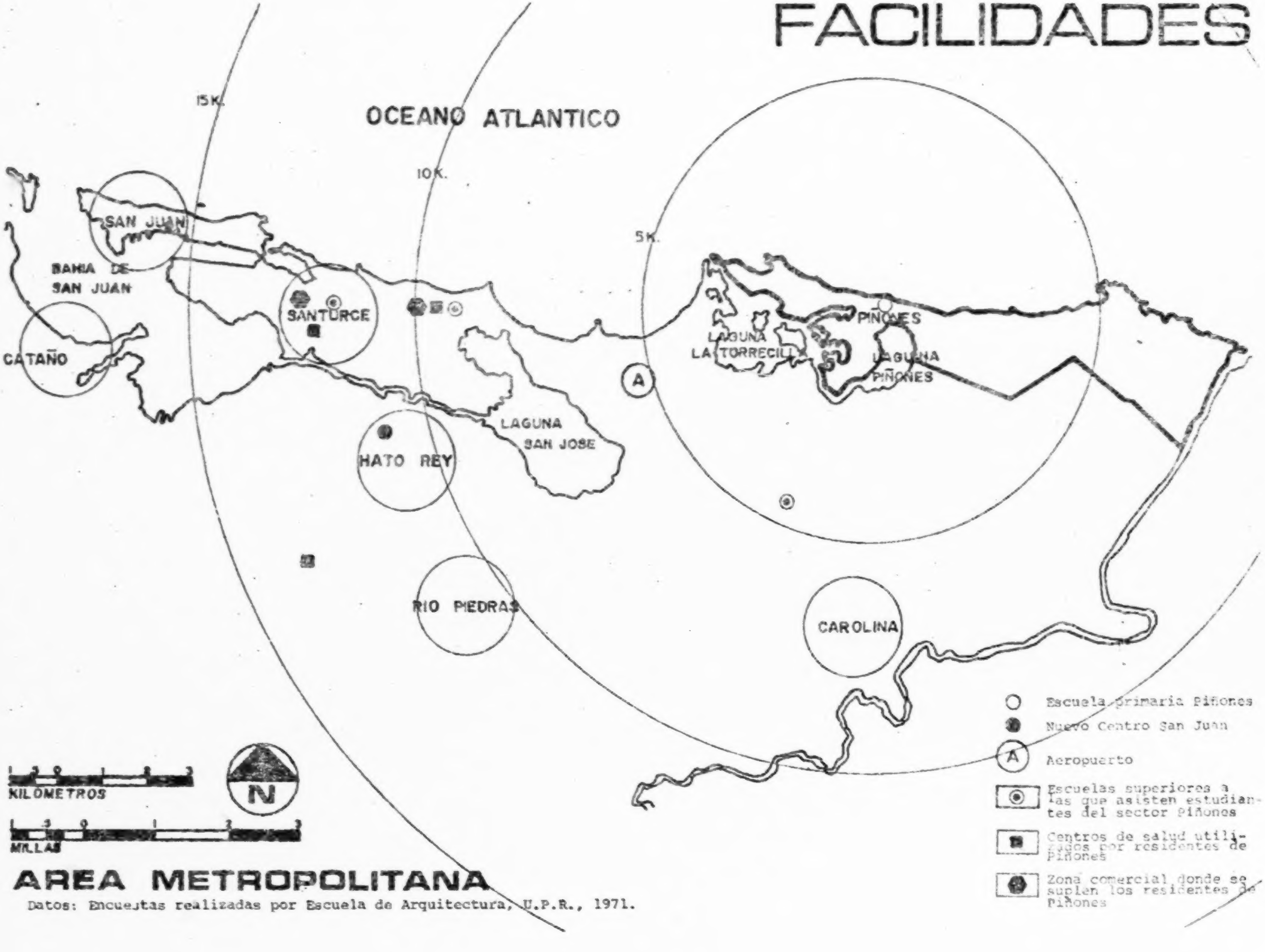
VIVIENDAS POR HECTAREA


OCEANO ATLANTICO
SAN JUAN
BAHIA DE SAN JUAN
CATAÑO
SANTURCE
HATO REY
LAGUNA SAN JOSE
RIO PIEDRAS
LAGUNA LA TORRECILLA
PIÑONES
LAGUNA PIÑONES
CAROLINA
A
KILOMETROS
MILLAS
N
● Nuevo Centro San Juan
Ⓐ Aeropuerto
▦ 41 en adelante
▩ 21 - 40
▨ 0 - 20

AREA METROPOLITANA

Datos: 1960 U. S. Census.

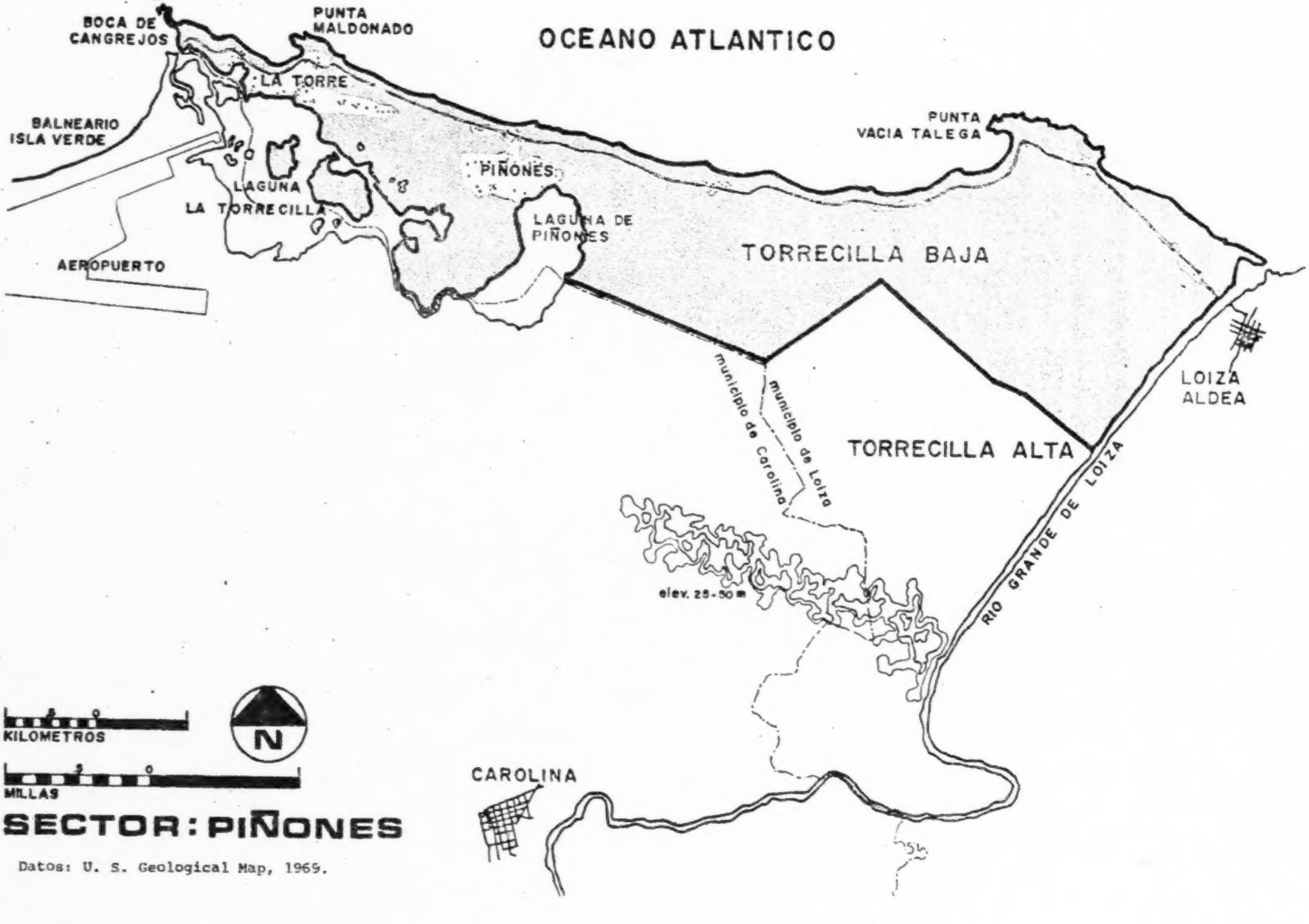
FACILIDADES


15K.
OCEANO ATLANTICO
10K.
5K.
SAN JUAN
BAHIA DE SAN JUAN
CATAÑO
SANTURCE
HATO REY
LAGUNA SAN JOSE
RIO PIEDRAS
A
LAGUNA LA TORRECILLA
PIÑONES
LAGUNA PIÑONES
CAROLINA
KILOMETROS
MILLAS
N
○ Escuela primaria Piñones
● Nuevo Centro San Juan
Ⓐ Aeropuerto
⊙ Escuelas superiores a las que asisten estudiantes del sector Piñones
■ Centros de salud utilizados por residentes de Piñones
● Zona comercial donde se suplen los residentes de Piñones

AREA METROPOLITANA

Datos: Encuestas realizadas por Escuela de Arquitectura, U.P.R., 1971.

EL SECTOR


BOCA DE CANGREJOS
PUNTA MALDONADO
OCEANO ATLANTICO
LA TORRE
BALNEARIO ISLA VERDE
PUNTA VACIA TALEGA
PIÑONES
LAGUNA LA TORRECILLA
LAGUNA DE PIÑONES
AEROPUERTO
TORRECILLA BAJA
municipio de Carolina
municipio de Loiza
LOIZA ALDEA
TORRECILLA ALTA
RIO GRANDE DE LOIZA
elev. 25-50 m
5
0
KILOMETROS
N
3
0
MILLAS
CAROLINA

SECTOR: PIÑONES

Datos: U. S. Geological Map, 1969.

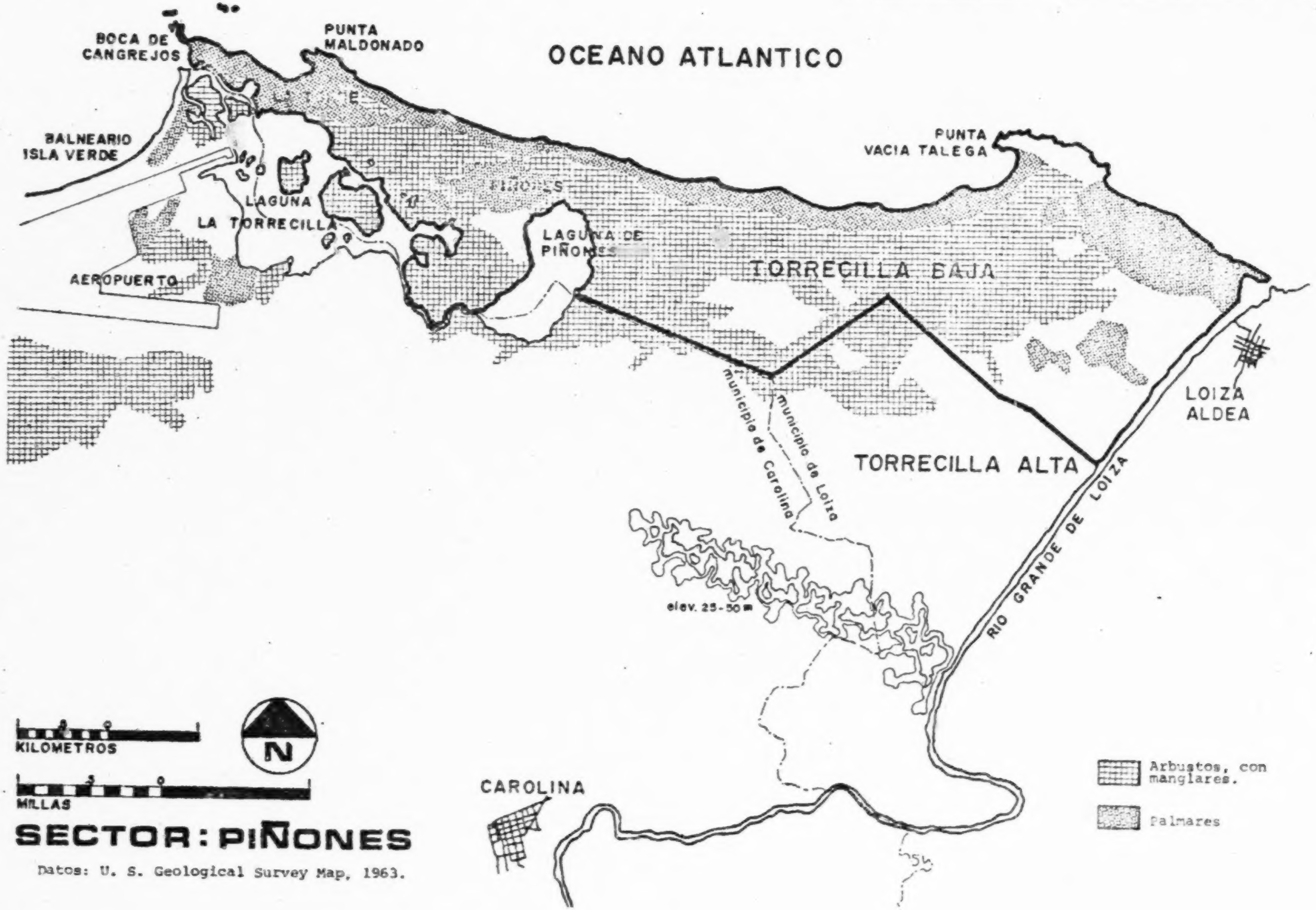
RESUMEN HISTORICO

Año 1493	Cristóbal Colón descubre la isla de Boriquén (Puerto R
Año 1511	Llegan a Puerto Rico los primeros esclavos negros.
Año 1521	Fundación de la ciudad de San Juan.
Año 1582	Establecimiento de tres ingenios azucareros en el incipiente poblado de Loíza. Clase dominante compuesta por españoles servidos por sus esclavos negros.
Año 1641	Las autoridades españolas' comienzan la fortificación de San Juan. EN BOCA DE CANGREJOS SE CONSTRUYE EL FORTIN "LA TORRE", PARA PROTEGER A LA POBLACION DE LOS FRECUENTES ATAQUES DE LOS INDIOS CARIBES.
Año 1703	Incursión de naves inglesas en Loíza.
Año 1719	El poblado de Loíza recibe la "Carta de Pueblo".
Año 1750	CONSTRUCCION DE UN SEGUNDO FORTIN EN BOCA DE CANGREJOS, ESTA VEZ DESTINADO A LA DEFENSA DEL SECTOR CONTRA ATAQUES INGLESES. ESTO ATRAJO NUEVOS POBLADORES, PRINCIPALMENTE DE LOIZA Y TAMBIEN ESCLAVOS LIBERADOS DEL PAIS Y FUGITIVOS DE LAS ANTILLAS MENORES, DANDO LUGAR, PRESUMIBLEMENTE, AL ACTUAL ASENTAMIENTO.
Año 1841	SE HABLA DE CONSTRUIR UN CANAL ENTRE EL RIO GRANDE DE LOIZA Y LA LAGUNA DE PIÑONES.
Año 1858	Fundación de la ciudad de Carolina, desplazándose hacia ella las familias mas importantes y comienza a perder importancia el pueblo de Loíza.
Año 1873	Abolición de la esclavitud en Puerto Rico. LA MAYORIA DE LOS NEGROS Y MULATOS LIBERADOS DE LOIZA, SE RADICAN EN LAS COSTAS ADYACENTES, GENERANDO UN GRUPO DE GRAN COHESION RACIAL.
Año 1898	Puerto Rico deja de ser posesión española y pasa a ser colonia de los Estados Unidos de Norteamerica.
Año 1900	Estados Unidos dicta la "Ley Orgánica de Puerto Rico".

FUENTES DE INFORMACION:
DR. ADOLFO DE HOSTOS
DR. RICARDO ALEGRIA
INSTITUTO DE CULTURA PUERTORRIQUEÑA
WORLD ALMANAC 1970

Año 1928	El huracán "San Felipe" azota Puerto Rico y altera la economía del pais por los daños ocasionados, especialmente a cafetales. LA OCUPACION PRINCIPAL DE LOS HABITANTES DEL SECTOR ERA, POR ESTA EPOCA, LA PRODUCCION DEL CARBON Y EN MENOR MEDIDA EL CULTIVO DE LA CAÑA Y FRUTOS MENORES, SIEMBRA DE PALMAS Y RECOLECCION DE COCOS. EL MAYOR PROPIETARIO DE TIERRAS DE LA ZONA ERA LA EMPRESA "LOIZA SUGAR COMPANY".
Año 1930	Depresión económica mundial afecta Puerto Rico al caer los precios de los productos agrícolas, lo que se traduce en la quiebra de numerosos negocios pequeños.
Año 1935	"LOIZA SUGAR COMPANY" VENDE SUS TIERRAS A LA "FAJARDO SUGAR COMPANY".
Año 1940	El gobierno procura promover un programa de industrialización, combatiendo la miseria con nuevas fuentes de empleo.
Año 1942	Creación de la Autoridad de los Puertos, Fuentes Fluviales, Corporacion de Fomento, Junta de Planificación de Puerto Rico, etc.
Año 1949	"FAJARDO SUGAR COMPANY" VENDE SUS PROPIEDADES A LA AUTORIDAD DE TIERRAS, LA QUE A SU VEZ, VENDE A LA CORPORACION DE FOMENTO INDUSTRIAL 911 CUERDAS ENTRE BOCA DE CANGREJOS Y PIÑONES.
Año 1950	LA EXTRACCION DE ARENA EN TORRECILLA BAJA PARA LA CONSTRUCCION DEL AEROPUERTO INTERNACIONAL DE ISLA VERDE, CREA NUEVA FUENTE DE EMPLEO PARA LOS HABITANTES DEL SECTOR DE TORRECILLA BAJA.
Año 1953	Creación del Estado Libre Asociado de Puerto Rico. Se impulsa desarrollo industrial de la isla con la operación "Manos a la Obra", la cual facilita la radicación de importantes capitales atraídos por la exención contributiva, ayuda financiera, arrendamiento de edificios, etc.
Año 1961	CORPORACION "HOTEL SAN JUAN" COMPRA TERRENOS EN PUNTA VACIA TALEGA. PROPUESTA DE FOMENTO INDUSTRIAL PARA DESARROLLO DEL AREA ENTRE BOCA DE CANGREJOS Y PIÑONES.
Año 1968	SEGUNDA PROPUESTA DE FOMENTO INDUSTRIAL PARA EL SECTOR.
Año 1971	LA JUNTA DE PLANIFICACION EN SU PLAN REGULADOR PARA 1985 DEFINE LOS USOS DE LA TIERRA PROPUESTOS PARA EL SECTOR.

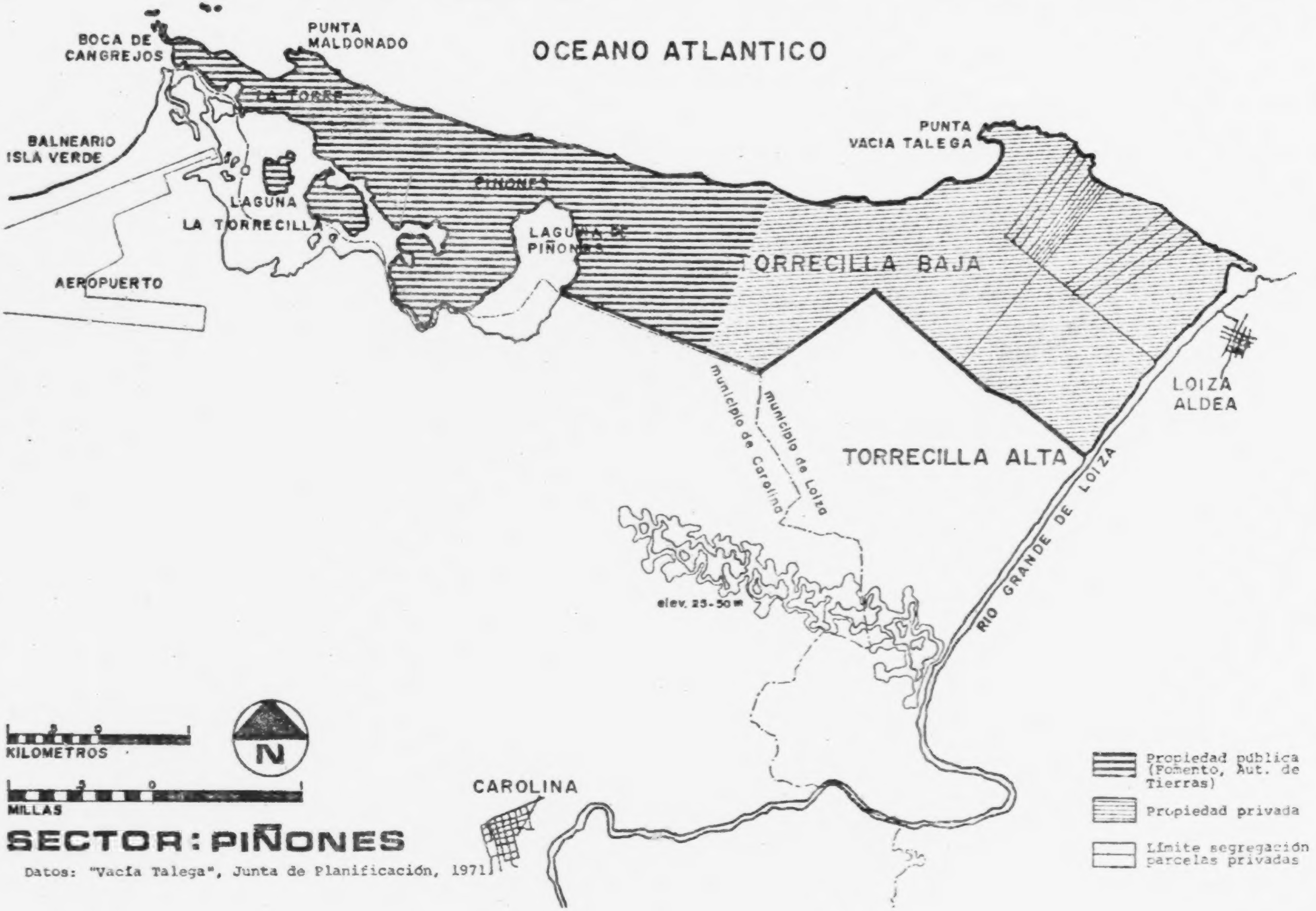
VEGETACION


BOCA DE CANGREJOS
PUNTA MALDONADO
OCEANO ATLANTICO
BALNEARIO ISLA VERDE
PIÑONES
LAGUNA LA TORRECILLA
AEROPUERTO
LAGUNA DE PIÑONES
PUNTA VACIA TALEGA
TORRECILLA BAJA
municipio de Carolina
municipio de Loiza
TORRECILLA ALTA
LOIZA ALDEA
RIO GRANDE DE LOIZA
elev. 25-50 m
CAROLINA
KILOMETROS
MILLAS
N
Arbustos, con manglares.
Palmares

SECTOR: PIÑONES

Datos: U. S. Geological Survey Map, 1963.

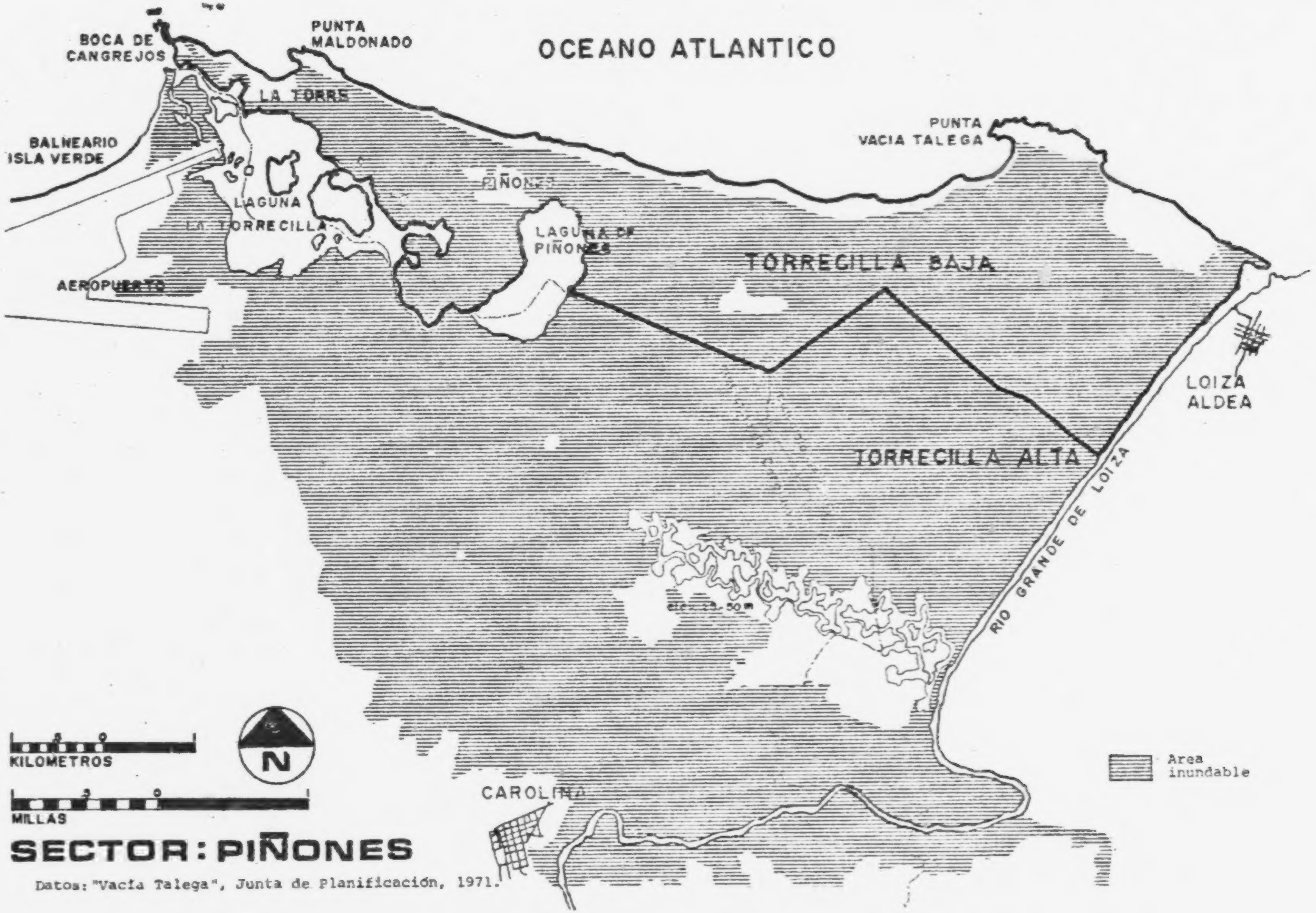
PROPIEDAD DE LA TIERRA


OCEANO ATLANTICO
BOCA DE CANGREJOS
PUNTA MALDONADO
LA TORRE
BALNEARIO ISLA VERDE
LAGUNA LA TORRECILLA
AEROPUERTO
PIÑONES
LAGUNA DE PIÑONES
PUNTA VACIA TALEGA
TORRECILLA BAJA
TORRECILLA ALTA
LOIZA ALDEA
RIO GRANDE DE LOIZA
municipio de Carolina
municipio de Loiza
elev. 25-50 m
CAROLINA
KILOMETROS
MILLAS
N
Propiedad pública (Fomento, Aut. de Tierras)
Propiedad privada
Límite segregación parcelas privadas

SECTOR: PIÑONES

Datos: "Vacía Talega", Junta de Planificación, 1971

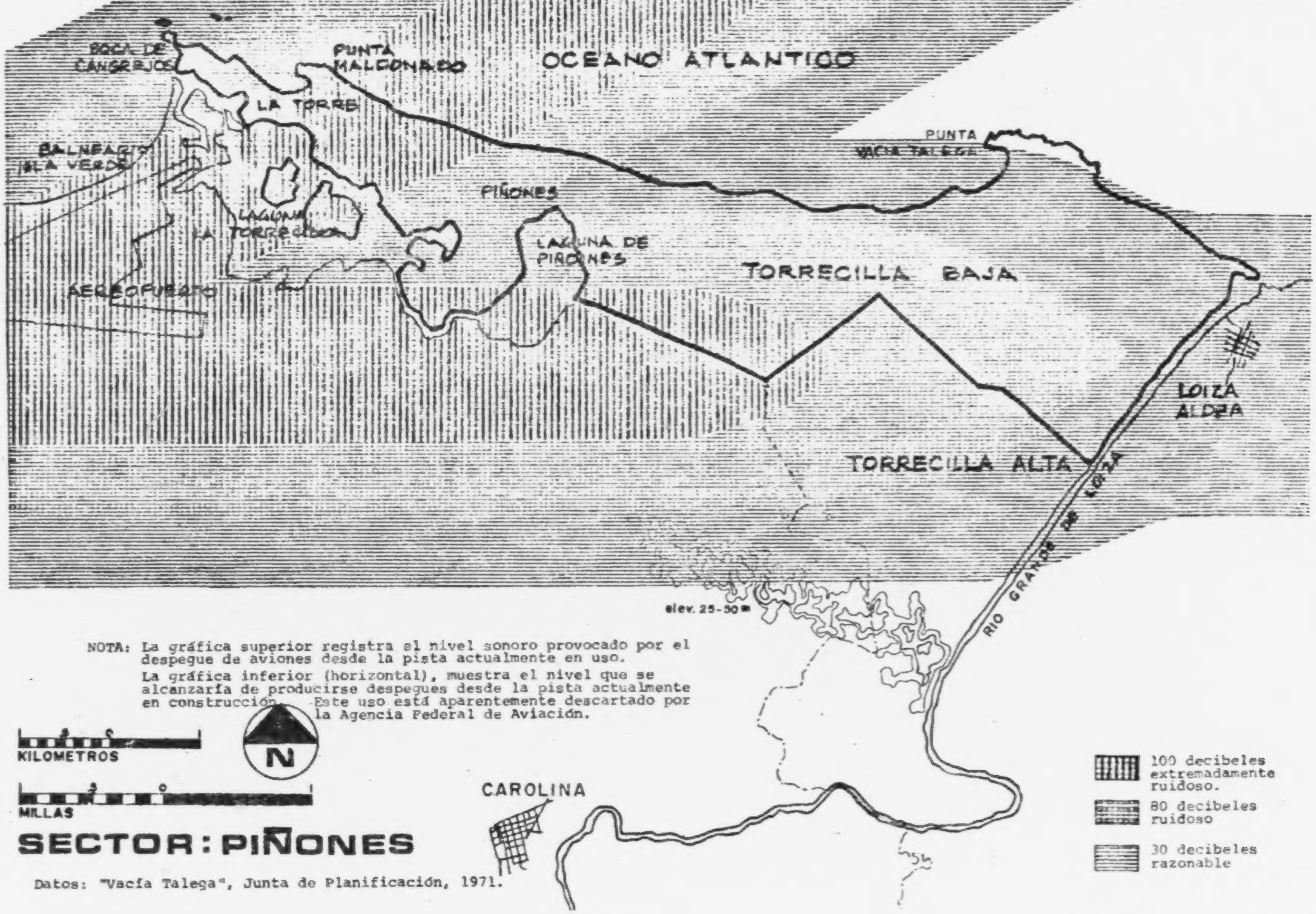
ZONA INUNDABLE


OCEANO ATLANTICO
BOCA DE CANGREJOS
PUNTA MALDONADO
LA TORRE
BALNEARIO ISLA VERDE
LAGUNA LA TORRECILLA
AEROPUERTO
PIÑONES
LAGUNA DE PIÑONES
PUNTA VACIA TALEGA
TORRECILLA BAJA
TORRECILLA ALTA
LOIZA ALDEA
RIO GRANDE DE LOIZA
CAROLINA
KILOMETROS
MILLAS
N
Area inundable

SECTOR: PIÑONES

Datos: "Vacía Talega", Junta de Planificación, 1971.

NIVEL SONORO


BOCA DE CANGREJOS
PUNTA MALDONADO
OCEANO ATLANTICO
LA TORRE
PUNTA VACIA TALEGA
BALNEARIO ISLA VERDE
PIÑONES
LAGUNA LA TORRECILLA
LAGUNA DE PIÑONES
TORRECILLA BAJA
AEROPUERTO
LOIZA ALDEA
TORRECILLA ALTA
RIO GRANDE DE LOIZA
elev. 25-30 m
KILOMETROS
N
MILLAS
CAROLINA
100 decibeles extremadamente ruidoso.
80 decibeles ruidoso
30 decibeles razonable

NOTA: La gráfica superior registra el nivel sonoro provocado por el despegue de aviones desde la pista actualmente en uso.

La gráfica inferior (horizontal), muestra el nivel que se alcanzaría de producirse despegues desde la pista actualmente en construcción. Este uso está aparentemente descartado por la Agencia Federal de Aviación.

SECTOR: PIÑONES

Datos: "Vacía Talega", Junta de Planificación, 1971.

POBLACION

El sector Torrecilla Baja, mas conocido popularmente en su conjunto bajo el nombre de "Piñones", tiene dos asentamientos humanos bien definidos.

Uno de estos, "La Torre", se encuentra a la entrada del sector, viniendo desde Boca de Cangrejos e inmediatamente próximo al Aeropuerto Internacional de Isla Verde. Allí vive aproximadamente el 35% de la población total de Torrecilla Baja, mayormente en viviendas sumamente precarias. A ambos lados del camino principal, hay una gran concentración de pequeños negocios de consumo que en los fines de semana alcanzan un considerable mercado entre quienes visitan las playas.

La otra comunidad se encuentra en la zona propiamente llamada Piñones, aproximadamente a mitad del camino entre Boca de Cangrejos y el pueblo de Loiza. En contraste con "La Torre", en "Piñones" las viviendas estan construidas con materiales mas permanentes, y cuentan con servicio de agua y electricidad casi en su totalidad. En esta area se encuentra la única escuela con que cuentan los habitantes de Torrecilla Baja.

Es notable el uso reciente que numerosas familias del Area Metropolitana de San Juan estan haciendo de la sucesión de playas que se extienden desde Boca de Cangrejos hasta Puenta Vacia Talega, a pesar de la pésima condición del único camino existente.

LOS HABITANTES:

La población de Torrecilla Baja tuvo su origen en la agrupación de esclavos negros liberados.

Las tierras que entonces ocuparon no tenian demanda por ser pantanosas e inundables y ninguna resistencia se opuso al asentamiento y posterior arraigo de las familias. Esta circunstancía es la que justifica ampliamente el sentido de propiedad que han desarrollado los actuales pobladores, descendientes directos de aquellos primeros residentes.

La población contínua mostrando absoluto predominio de la raza negra y esta consistencia racial se mantiene por via de los numerosos matrimonios entre parientes. Alrededor de las casas de las personas mayores se han ido construyendo las de los hijos e hijas casados y las de otros familiares cercanos.

Estos lazos familiares y raciales reforzados por el aislamiento en que se halla la comunidad desde el punto de vista convencional de "progreso", se manifiesta en una cerrada negativa a permitir el asentamiento de nuevos pobladores, aunque tambien es producto de una natural actitud de autodefensa de los residentes ante el calificativo de "invasores" , con que la Corporación de Fomento Industrial ha promovido juicios de desalojo a mas de cincuenta familias.

(espacio para
fotografías)

DESCRIPCION SOCIO·ECONOMICA

FAMILIAS DE COMPOSICION NUMEROSA Y CON INGRESOS BAJOS, POCA EDUCACION Y POCAS HABILIDADES DE TRABAJO.

Por la naturaleza pantanosa y la pobreza de los suelos, la agricultura no ha podido concluir una fuente de ingresos adecuada para los residentes de la zona de Torrecilla Baja.

La homogenidad étnica de la comunidad, su ubicación marginal y la limitada accesibilidad a San Juan,hancontribuido al aislamiento de los residentes de la zona y su atraso econónmico y educativo.

Con el auge de la construcción en las décadas del 50 y 60, Torrecilla Baja se convirtió en uno de los lugares de extracción de arena mas importantes de la Zona Metropolitana de San Juan. La construcción del Aeropuerto Internacional de Isla Verde,especificamente,creó una nueva e importante fuente de ingresos para los habitantes de Torrecilla Baja.

Sin embargo, el poco entendimiento de los procesos y cambios ecológicos producidos por la extracción de arena en grandes cantidades y la falta de control ambiental y supervision por parte de las autoridades gubernamentales pertinentes, requirió a la postre detener el rapido deterioro de las barreras naturales que protegen nuestras costas. Se elimina así una importante actividad económica en la comunidad de Torrecilla Baja, que hasta el presente no ha sido reemplazada. Esta pérdida, aparentemente motivó a los pobladores a buscar empleo fuera del sector.

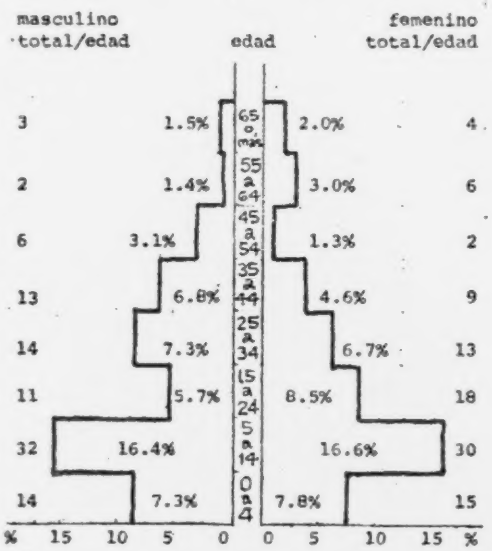
Durante los últimos años, los pequeños negocios de consumo han sido una fuente adicional de ingresos para los habitantes del área:

(espacio para
fotografías)

POR LA CONDICION MARGINAL DE TORRECILLA BAJA Y EL MARCADO SUB-DESARROLLO DE SU INFRAESTRUCTURA, HEMOS ENCONTRADO UNA MARCADA ESCASEZ DE INFORMACION SOBRE ESTA COMUNIDAD EN LAS ESFERAS GUBERNAMENTALES. LA MUESTRA SOCIO-ECONOMICA QUE TUVIMOS QUE REALIZAR, NOS BRINDO DATOS IMPORTANTES SOBRE LA COMUNIDAD, AUNQUE SOLO CENSAMOS EL 20% DE LA POBLACION TOTAL. ES POR ELLO QUE LOS PORCENTAJES QUE SE SE INDICAN PUEDEN NO SER DEFINITIVOS Y DEBERAN SER REVISADOS EN EL FUTURO.

DISTRIBUCION SEXO Y EDAD

TORRECILLA BAJA - 1971
Datos: Encuesta socio-económica, (*)
Escuela de Arquitectura UPR, 1971
PERSONAS CENSADAS: 192

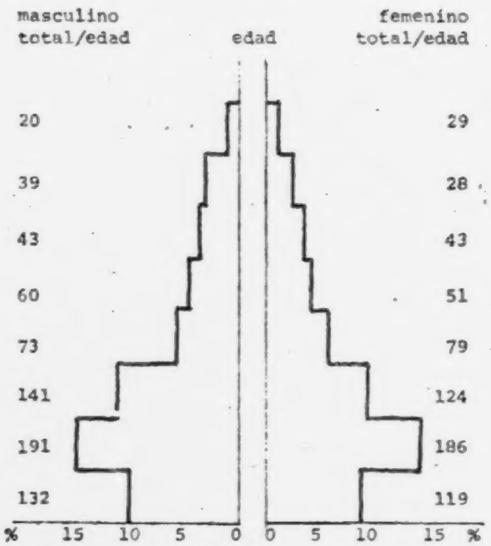


TOTAL SEXO MASCULINO ENCUESTADO: 95(49.5%)
TOTAL SEXO FEMENINO ENCUESTADO: 97(50.5%)

(*) (Porcentajes extraídos de los 30 encuestas completadas por aproximadamente el 20% de las familias del sector, cuyos datos fueron utilizados debido a que el Censo Nacional para 1970 todavía se halla en proceso de tabulación respecto a porcentajes en la distribución poblacional por sexo y edad.

TORRECILLA BAJA - 1960
Datos: U.S.Census, 1960

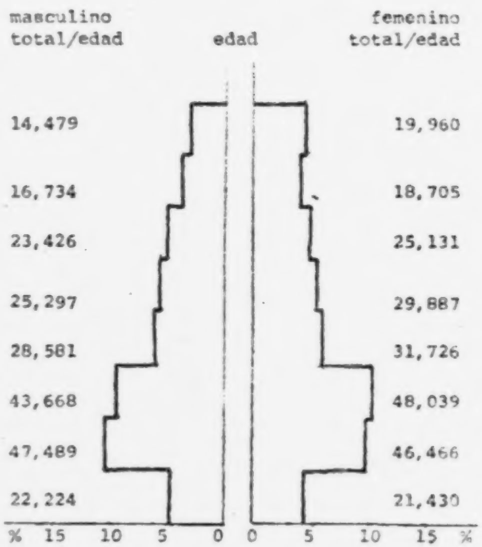
PERSONAS (total): 1,359



TOTAL SEXO MASCULINO CENSADO: 700 (52.0%)
TOTAL SEXO FEMENINO CENSADO: 659 (48.0%)

SAN JUAN - 1970
Datos: U.S.Census, 1970

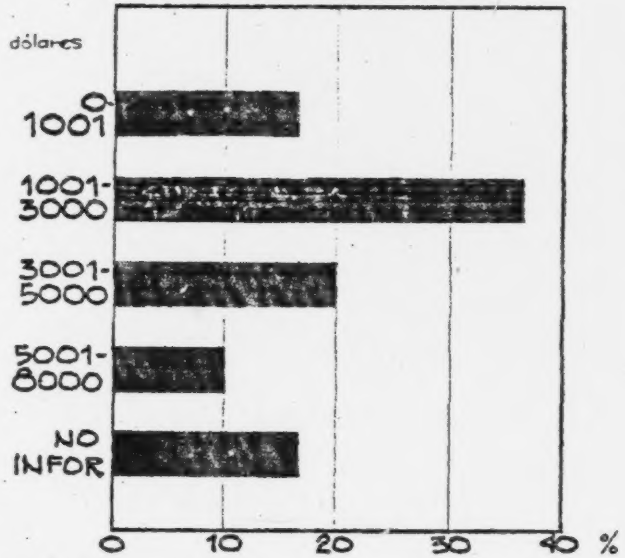
PERSONAS(total): 463,242



TOTAL SEXO MASCULINO CENSADO: 221,898 (47%)
TOTAL SEXO FEMENINO CENSADO: 241.344 (53%)

Al comparar la muestra poblacional registrada para el año 1971 en Torrecilla Baja con los datos del censo oficial de 1960 se observa una reducción en el porcentaje de hombres en edad activa y un aumento del de las mujeres en igual edad. En el escalón de las personas de edad pasiva (mayores de 64 años) no se advierten cambios. Sin embargo, entre los pobladores de edad dependiente se advierte un crecimiento notable, mucho mayor que el registrado para la ciudad de San Juan.

DISTRIBUCION DE INGRESOS ANUALES



INGRESOS POR FAMILIA:

El tema fué investigado por el Censo de 1970, pero su tabulación está aun en proceso de elaboración y la Oficina del Censo espera poder publicar datos de ingresos y ocupación para Puerto Rico hacia mediados de 1972.

De acuerdo a nuestras encuestas, el promedio de ingresos anuales por núcleo familiar es de $3,146.88

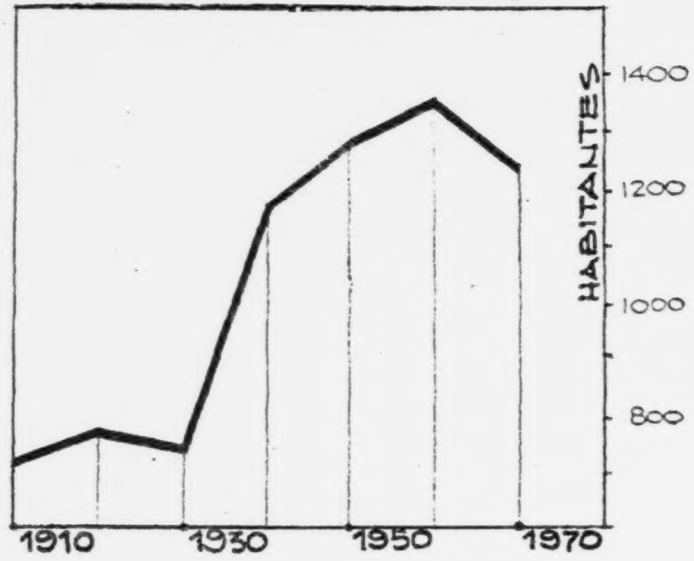
De las entrevistas efectuadas se desprende que el 50% de la población en edad de trabajo es economicamente activa. Del total de trabajadores el 15% son mujeres.

Casi en su totalidad, las encuestas demuestran una alta inestabilidad en los empleos y bajos ingresos, debido a la poca educación y a la falta de destreza profesional.

La mayor fuente de empleos la representa la industria de la construcción en el Area Metropolitana de San Juan, y le sigue, en orden de importancia, tareas de limpieza y mantenimiento en la zona hotelera.

Los ingresos más altos declarados, corresponden a cuatro familias que operan negocios propios en el area.

GRAFICA DE CRECIMIENTO POBLACIONAL 1910-1970



CRECIMIENTO POBLACIONAL COMPARATIVO SEGUN CENSOS OFICIALES

año	habitantes TORRECILLA BAJA	 SAN JUAN	 PUERTO RICO
1899	738	32,048	953,243
1910	721	48,716	1,118,012
1920	775	71,443	1,299,809
1930	750	114,715	1,543,913
1940	1,177	169,247	1,869,255
1950	1,283	368,756	2,210,703
1960	1,359	432,368	2,349,544
1970	1,240	463,242	2,712,033

En la gráfica de historia de crecimiento poblacional de Torrecilla Baja, se observa una marcada disminución de la población entre los años 1960 a 1970, debido a que los pobladores localizados en la zona de Vacía Talega -que se inunda con frecuencia- fueron trasladados a Torrecilla Alta, Loíza.

VIVIENDA

En Torrecilla Baja las viviendas se encuentran, en su gran mayoría, agrupadas. Y esos agrupamientos están localizados en los pocos sectores en donde el suelo es firme y con menos riesgo de inundarse. Las dos concentraciones principales son las denominadas "La Torre" y "Piñones", tal como se describe en el tema "Población"

El emplazamiento de las viviendas no sigue ningún patrón usual y no se respetan alineaciones de calles u otras indicaciones reguladoras. El ambiente configurado es típicamente rural.
Aún en las zonas más "densas", la distribución de las estructuras es casual, lo que dificulta para un extraño el localizar determinada vivienda o persona, tal como ocurrió repetidas veces durante el desarrollo de nuestra encuesta.

De las numerosas entrevistas mantenidas con las familias de Piñones y La Torre, el 20% de ellas respondió íntegramente al contenido de la encuesta.
Si bien una muestra del 20% de la población puede considerarse solo relativamente representativa del total de la comunidad, juzgamos que los valores numéricos extraídos de la sección "Vivienda" de las encuestas reflejan con veracidad la realidad del conjunto.
Esos valores establecen lo siguiente:

-El camaño de los solares varía entre 0.25 y 3.0 cuerdas (1,000 a 12,000 m2.) pero no es posible establecer una medida más o menos común debido a que la lotificación ha sido efectuada por los propios ocupantes y, por supuesto, no existen títulos ni descripción de la propiedad.

-El 76% de los solares tienen acceso directo desde la calle para personas y vehículos. A los restantes se accede a través de otros aunque rara vez se hallan definidos los límites de cada propiedad.

-Casi la totalidad de las familias mantiene crianza de aves y animales domésticos y muchas tienen cerdos y cabras. El 46% utiliza parte del lote para el cultivo de frutos menores.

-El área de las viviendas censadas varía entre 150 y 900 pies cuadrados cubiertos.

-Los materiales de construcción más usuales son:
  °El 100% de las viviendas tienen techos con estructura de madera y cubierta de chapas acanaladas de zinc.
  °En las paredes, la calidad varía desde un 53.2% para madera y zinc; 36.7% de madera exclusivamente; 8.7% tiene algunas o la totalidad de las paredes en bloques de hormigón y el 1.4% restante incluye cartón, latas, etc., dentro de una construcción heterogénea.
  °Aproximadamente el 17% de las viviendas están actualmente en proceso de ampliación y mejoras, siendo el material más utilizado en este proceso los bloques de hormigón.

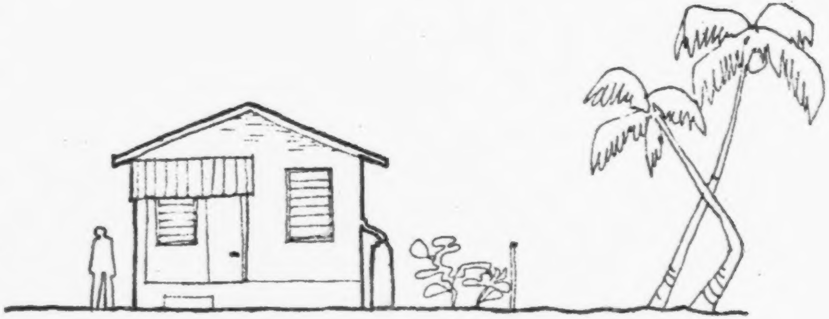
-El 63% de las viviendas han sido autoconstruídas por sus ocupantes y la mayoría de ellas han tenido ya ampliaciones.
El 20% ha recibido ayuda ocasional de artesanos o pequeños contratistas y el resto no sabe por no ser propietario de la estructura.

-El 96% de las viviendas censadas reciben servicio eléctrico.

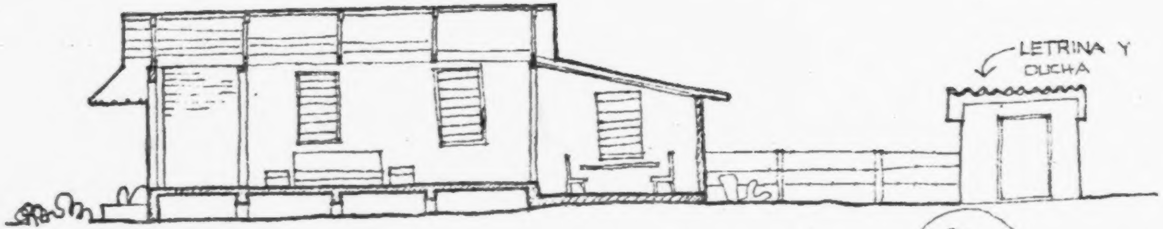
-El 30% de las viviendas no tienen provisión directa de agua y dependen de la compra de ésta o de su acarreo de las fuentes públicas que hay diseminadas por el sector, especialmente en La Torre.

-EL NUMERO DE PERSONAS POR HOGAR CENSADO FUE 6.19.
-EL INDICE PROMEDIO DE DENSIDAD DE OCUPACION FUE 2.7 PERSONAS POR CUARTO.

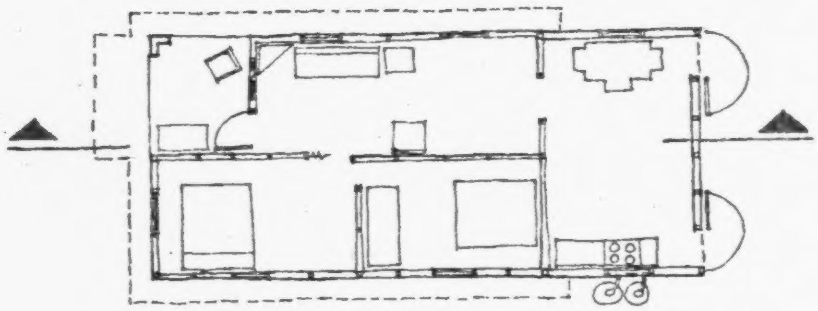
Datos: Encuesta socio-económica Piñones
Escuela de Arquitectura UPR, 1971.



ELEVACION


LETRINA Y
DUCHA

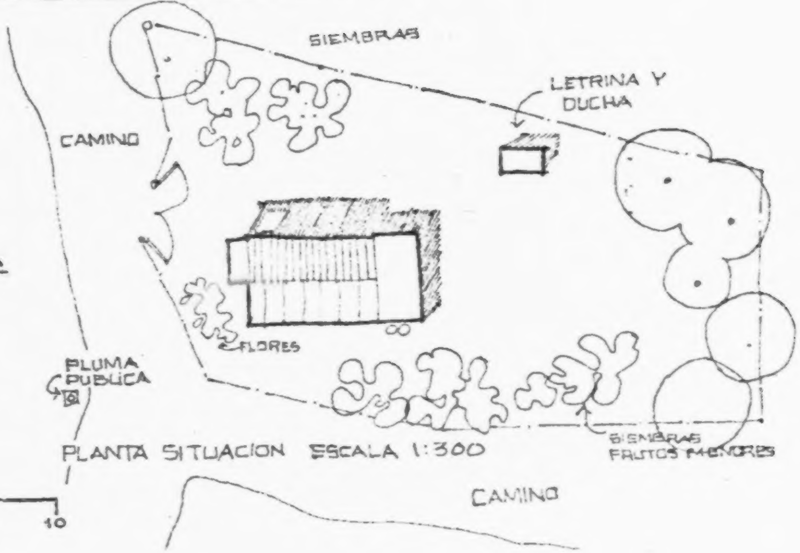
SECCION



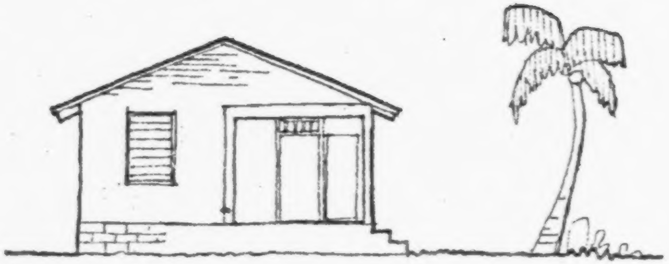
PLANTA

VIVIENDA 125

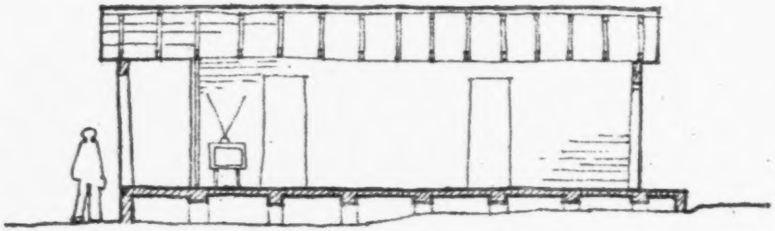
ESCALA 1 5 10


SIEMBRAS
LETRINA Y DUCHA
CAMINO
FLORES
PLUMA PUBLICA
SIEMBRAS FRUTOS MENORES
CAMINO

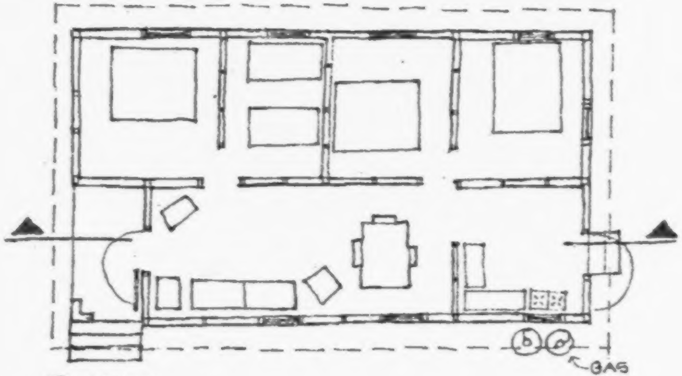
PLANTA SITUACION ESCALA 1:300



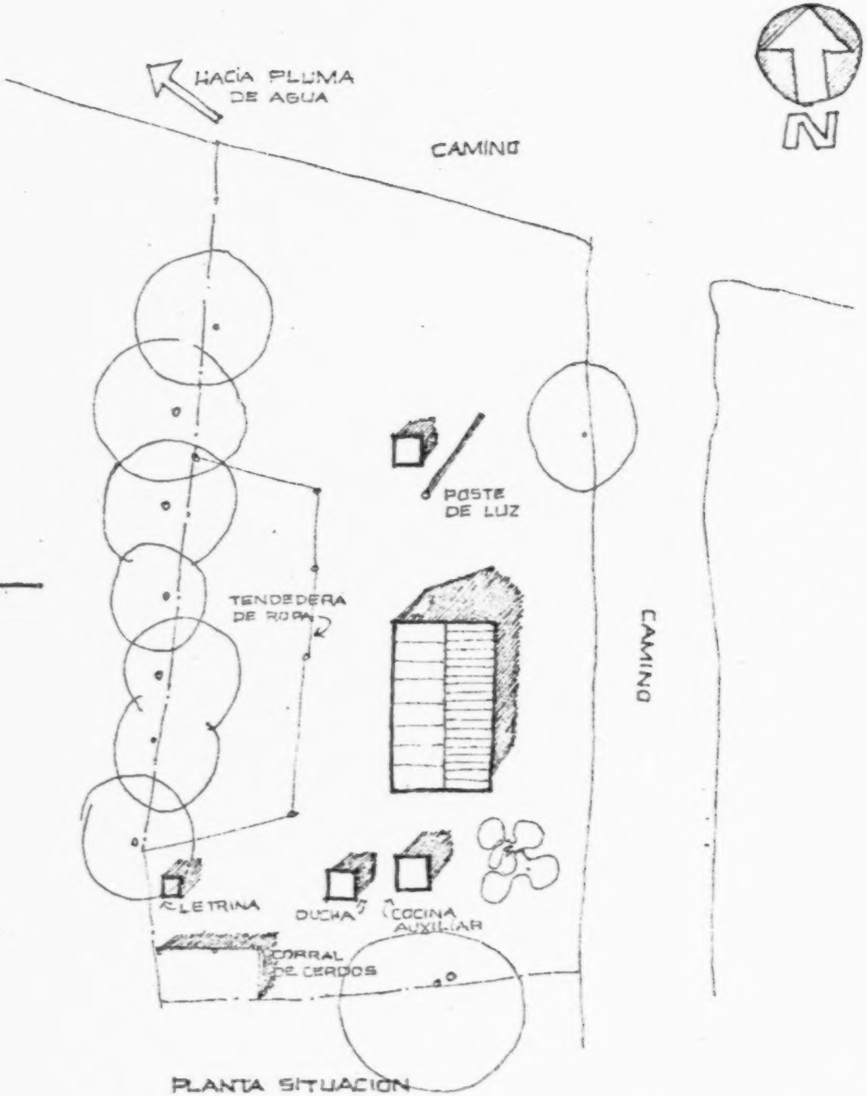
ELEVACION



SECCION



PLANTA

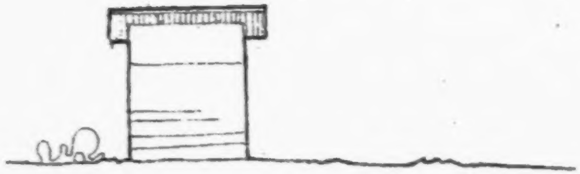

HACIA PLUMA
DE AGUA
CAMINO
CAMINO
POSTE
DE LUZ
TENDEDERA
DE ROPA
LETRINA
DUCHA
COCINA
AUXILIAR
CORRAL
DE CERDOS

PLANTA SITUACION

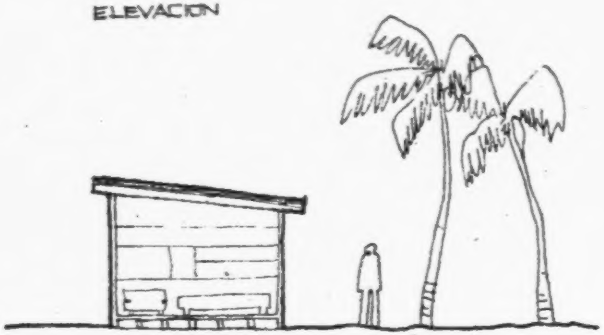
VIVIENDA 119

ESCALA 0 5 10

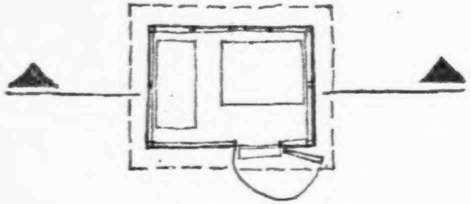
ESCALA 1:300



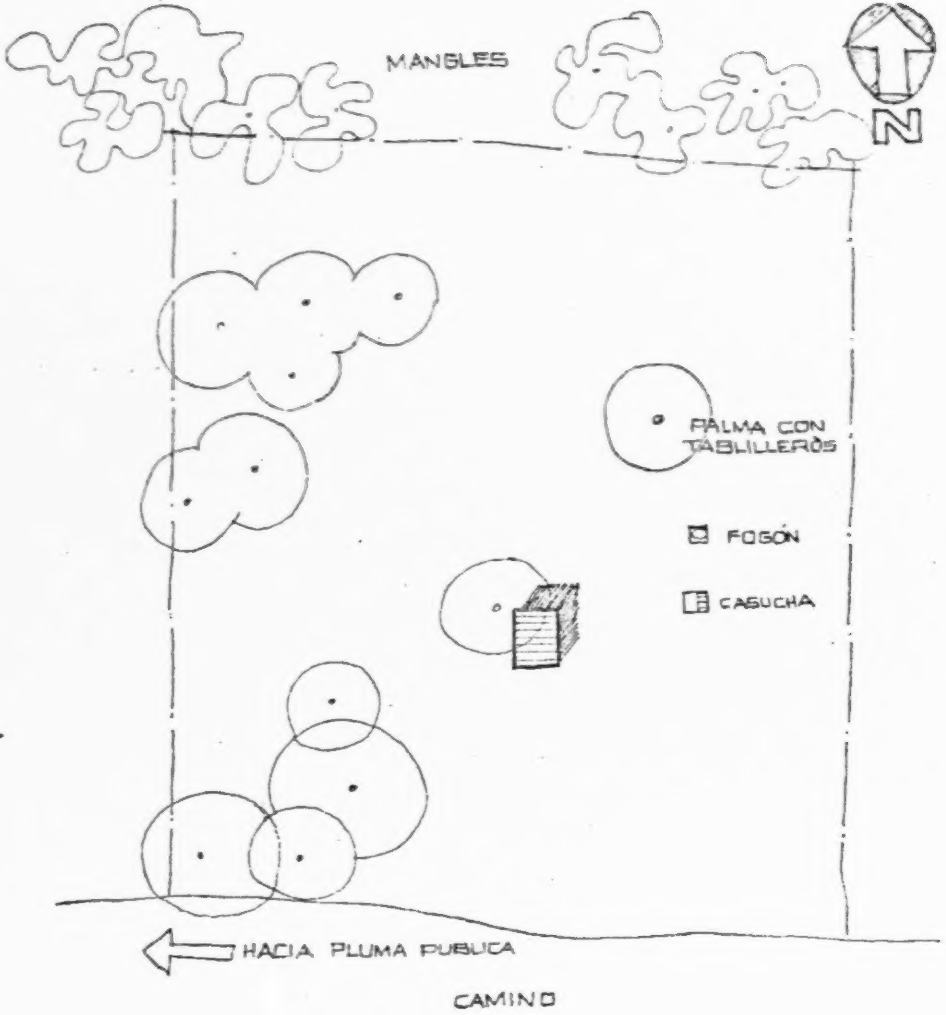
ELEVACION



SECCION



PLANTA


MANGLES
N
PALMA CON TABLILLEROS
FOGÓN
CASUCHA
HACIA PLUMA PUBLICA
CAMINO

PLANTA DE SITUACION ESCALA 1:300

VIVENDA 98

ESCALA 0 5 10

EDUCACION

Del total de los jefes de familia entrevistados, encontramos que el 20% carece de educación alguna; el 46.6% asistieron a la escuela elemental aunque solo unos pocos completaron los seis grados; el restante 33.4% ha recibido educación media y superior, aunque muchos no han finalizado los respectivos ciclos. Según nuestros datos, solo una persona de toda la comunidad (1,240 habitantes) ha alcanzado nivel universitario, graduándose de ingeniero civil.

ESCUELA PUBLICA "PIÑONES".

El único establecimiento educacional de Torrecilla Baja, es la Escuela Pública Piñones. Cuenta con una matrícula de 273 estudiantes, entre primero y sexto grado. Su comedor escolar sirve diariamente almuerzo a 255 niños, a pesar de contar solamente con facilidades para 32 personas, simultáneamente.

La planta física de la escuela no recibe mantenimiento ya que el Departamento de Instrucción ha decidido ya su relocalización. Las mejoras imprescindibles corren por cuenta de la Asociación de Padres, que pese al nivel de pobreza general, ha costeado la construcción del salon-comedor y actualmente está contribuyendo con el Club de Leones de Torrecilla Baja en la realización de un nuevo salón de clases.

Nuestra clase de Arquitectura de Tercer Año, realizó trabajos de pintura general, construcción de muebles y equipo didáctico, reparaciones menores y obtuvo donaciones diversas para remediar las deficiencias inmediatas que estuvieron a nuestro alcance.

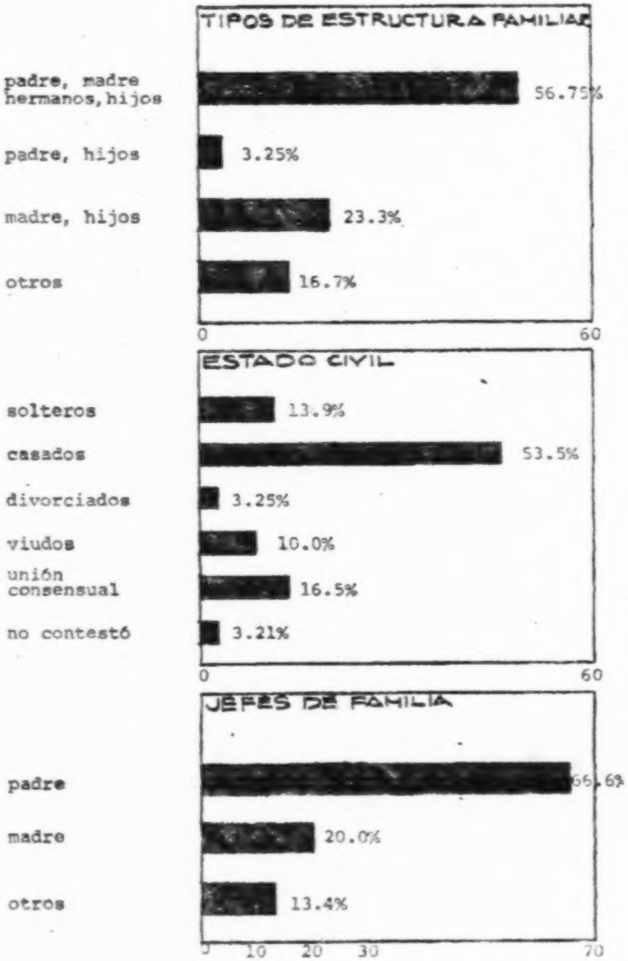
CONCURRENCIA A ESCUELAS DE LOS MENORES DE LAS FAMILIAS ENTREVISTADAS.

Sexo		Escuela y su localización	Nivel
Varones	Hembras		
23	19	Esc. Pub. Piñones	Elemental
1	4	Cerámica, Carolina	Intermedia
1	1	Eduardo Saldaña, Carolina	Intermedia
2	0	Baldorioty de Castro, Santurce	Intermedia
2	1	Urb. Carolina	Int. y sup.
1	1	Ramón Power, Santurce	Superior
2	2	República del Perú, Santurce	Superior
0	1	Universidad de Puerto Rico	Bachillerato

Sólo tres niños en edad escolar, no asisten a clases.

Datos: Encuesta socio-económica Piñones,
Escuela de Arquitectura UPR, 1971

ORGANIZACION FAMILIAR

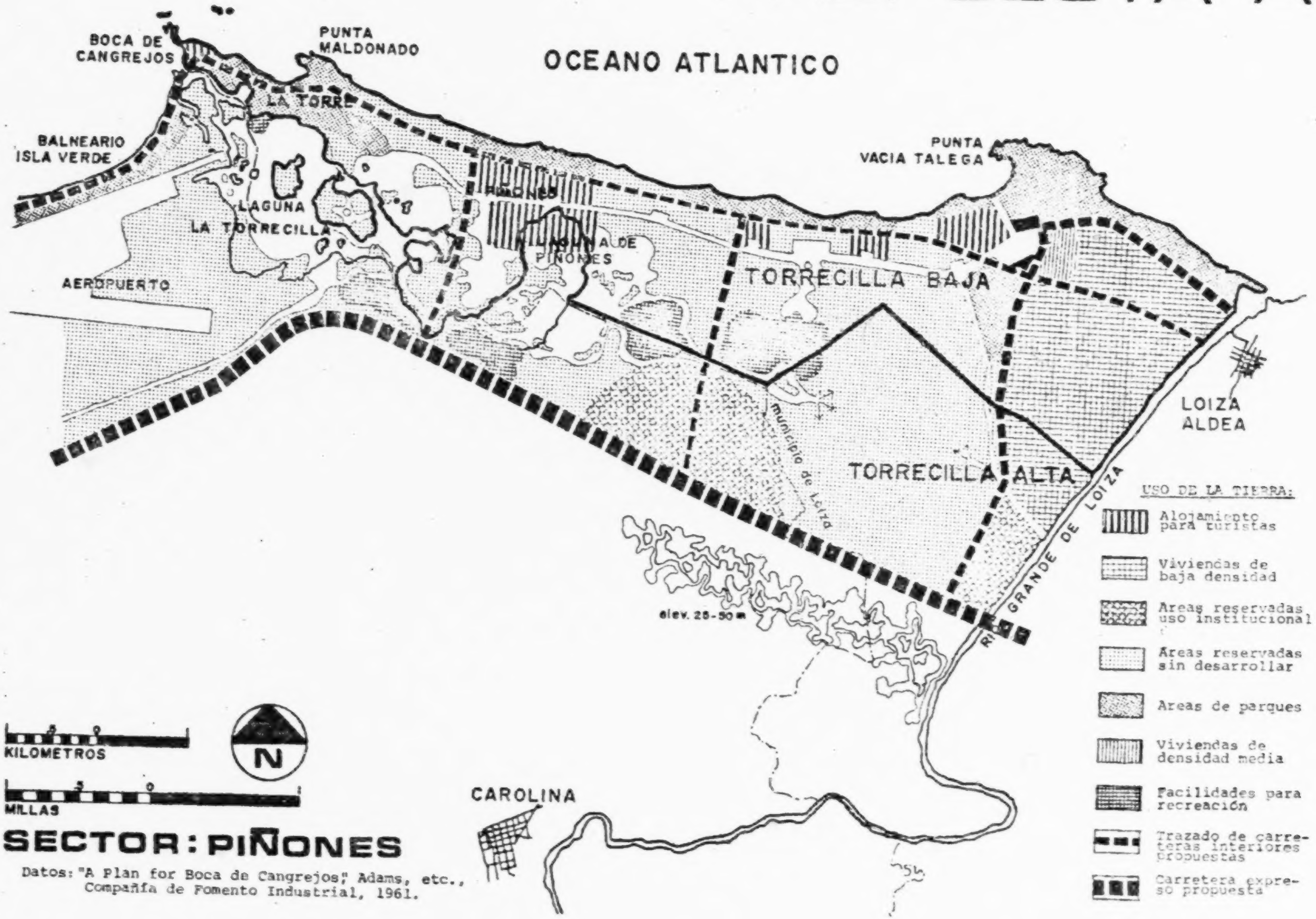


Datos: U.S.Census, 1970.
El censo nacional se basó en una muestra del 20% de la población y siendo el número de hogares censales en Torrecilla Baja de 199, una muestra de 20% es una base muy pequeña que puede afectar la confiabilidad de los datos.

INFORME PRELIMINAR

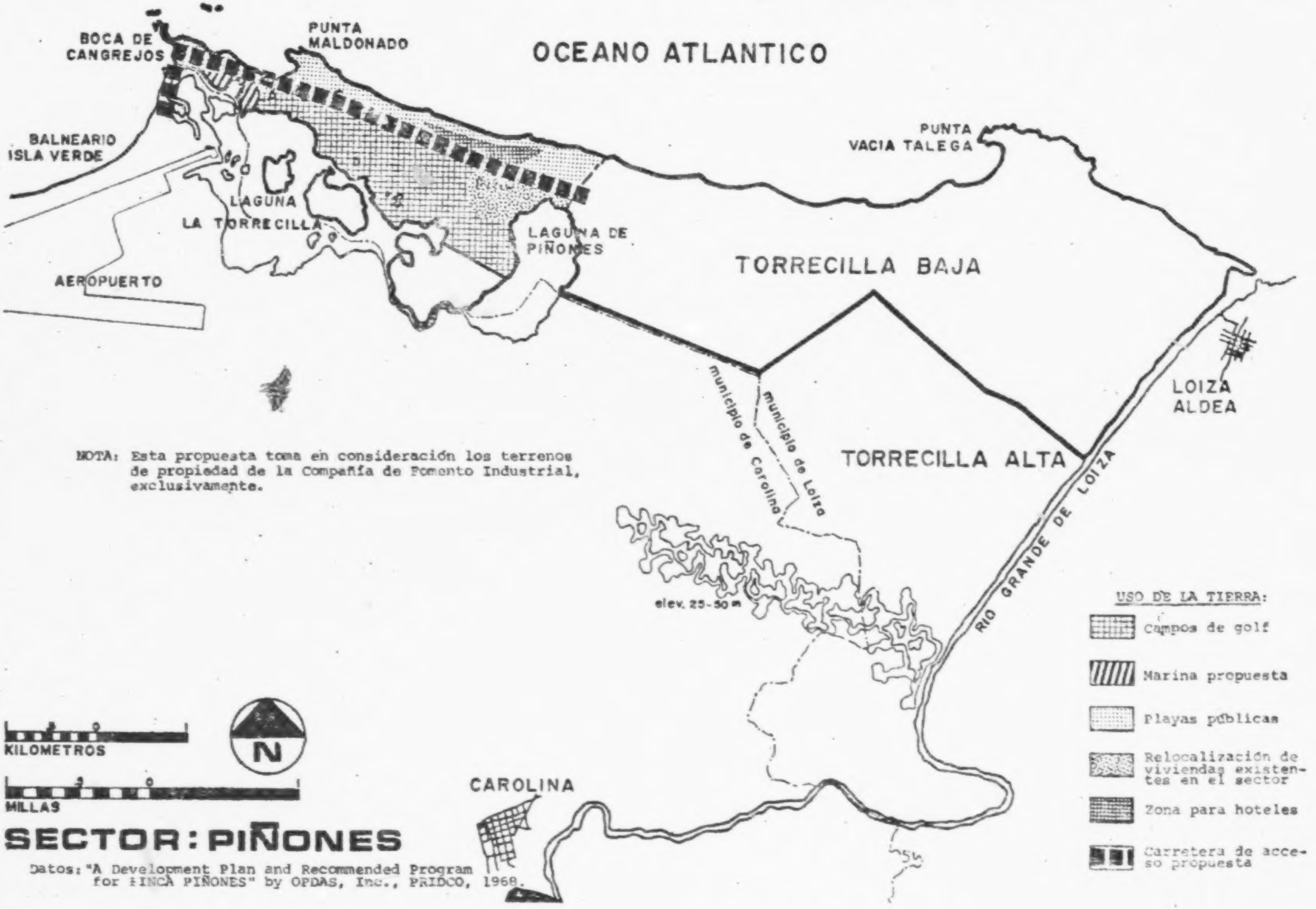
ANALISIS COMPARATIVO
DE PROPUESTAS DE
DESARROLLO EXISTENTES

PROPUESTA A


OCEANO ATLANTICO
BOCA DE CANGREJOS
PUNTA MALDONADO
LA TORRE
BALNEARIO ISLA VERDE
LAGUNA LA TORRECILLA
AEROPUERTO
PIÑONES
LAGUNA DE PIÑONES
PUNTA VACIA TALEGA
TORRECILLA BAJA
TORRECILLA ALTA
municipio de Loiza
LOIZA ALDEA
RIO GRANDE DE LOIZA
elev. 25-50 m
CAROLINA
KILOMETROS
MILLAS
N
USO DE LA TIERRA:
Alojamiento para turistas
Viviendas de baja densidad
Areas reservadas uso institucional
Areas reservadas sin desarrollar
Areas de parques
Viviendas de densidad media
Facilidades para recreación
Trazado de carreteras interiores propuestas
Carretera expreso propuesta
SECTOR: PIÑONES

Datos: "A Plan for Boca de Cangrejos," Adams, etc., Compañía de Fomento Industrial, 1961.

PROPUESTA B

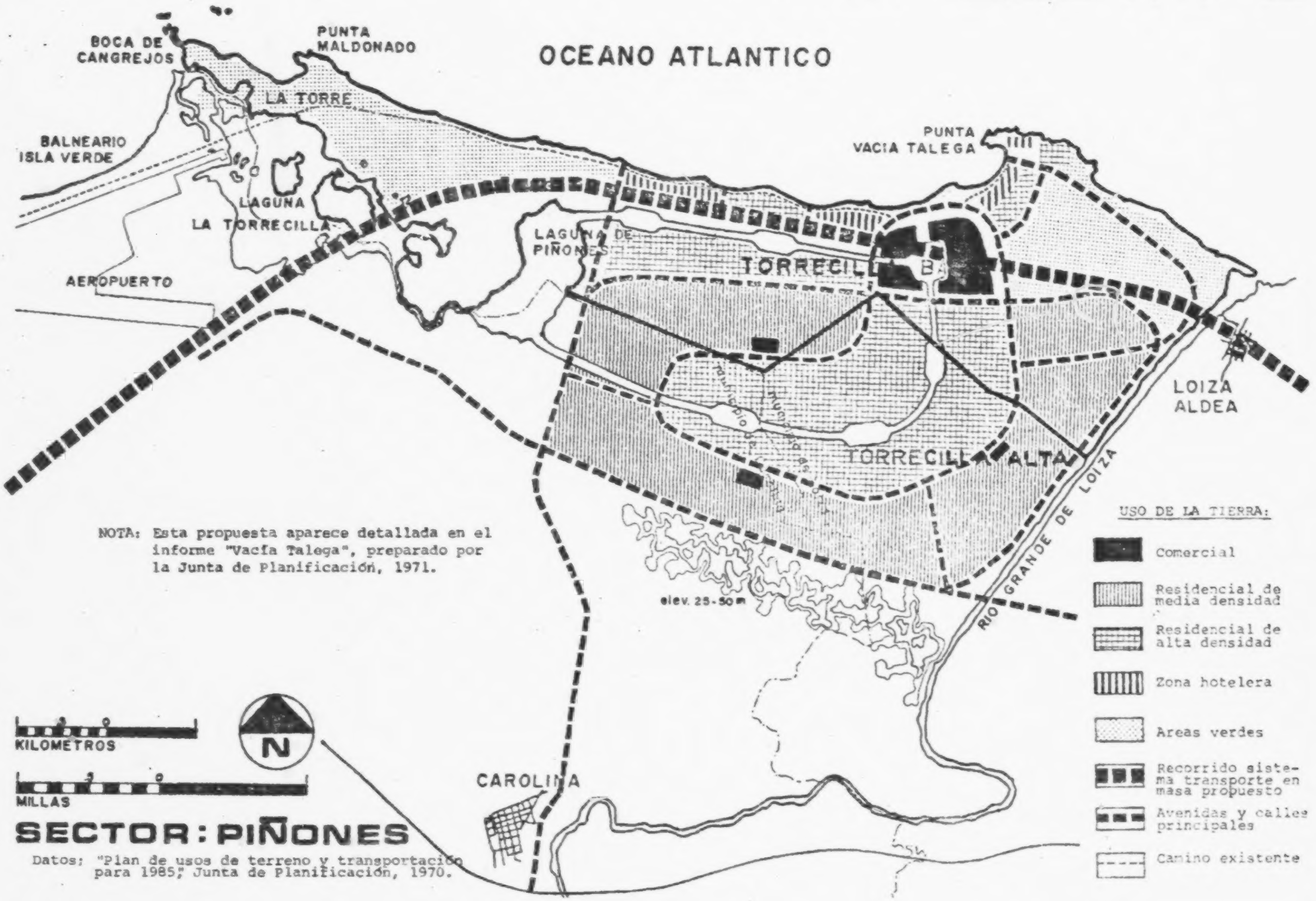

OCEANO ATLANTICO
BOCA DE CANGREJOS
PUNTA MALDONADO
BALNEARIO ISLA VERDE
LAGUNA LA TORRECILLA
AEROPUERTO
LAGUNA DE PIÑONES
PUNTA VACIA TALEGA
TORRECILLA BAJA
TORRECILLA ALTA
municipio de Carolina
municipio de Loiza
LOIZA ALDEA
RIO GRANDE DE LOIZA
elev. 25-50 m
CAROLINA
KILOMETROS
MILLAS
N
USO DE LA TIERRA:
Campos de golf
Marina propuesta
Playas públicas
Relocalización de viviendas existentes en el sector
Zona para hoteles
Carretera de acceso propuesta

NOTA: Esta propuesta toma en consideración los terrenos de propiedad de la Compañía de Fomento Industrial, exclusivamente.

SECTOR: PIÑONES

Datos: "A Development Plan and Recommended Program for FINCA PIÑONES" by OPDAS, Inc., PRIDCO, 1968.

PROPUESTA C


OCEANO ATLANTICO
BOCA DE CANGREJOS
PUNTA MALDONADO
LA TORRE
BALNEARIO ISLA VERDE
LAGUNA LA TORRECILLA
AEROPUERTO
LAGUNA DE PIÑONES
TORRECILLA B.
PUNTA VACIA TALEGA
TORRECILLA ALTA
LOIZA ALDEA
RIO GRANDE DE LOIZA
elev. 25-50 m
CAROLINA
KILOMETROS
MILLAS
N
USO DE LA TIERRA:
▇ Comercial
▥ Residencial de media densidad
▦ Residencial de alta densidad
▥ Zona hotelera
░ Areas verdes
▇▇▇ Recorrido sistema transporte en masa propuesto
▬ ▬ ▬ Avenidas y calles principales
- - - Camino existente

NOTA: Esta propuesta aparece detallada en el informe "Vacía Talega", preparado por la Junta de Planificación, 1971.

SECTOR: PIÑONES

Datos: "Plan de usos de terreno y transportación para 1985", Junta de Planificación, 1970.

ESTUDIO COMPARATIVO DE PROPUESTAS DE DESARROLLO EXISTENTES

		(A) CFI, Año 1961	(B) CFI, Año 1968	(C) JP, Año 1968-71	CHSJ, Año 1971 (D)	LEYENDAS
SITIO	LIMITES (ver mapas de las propuestas)	N*:Océano Atlántico E*:Río Grande de Loiza S*:Carretera (línea indeterminada) O*:Boca de Cangrejos e Isla Verde (línea indeterminada)	N*:Océano Atlántico E*:Laguna Piñones S*:Laguna Torrecilla (línea indeterminada) O*:Boca de Cangrejos	N*:Océano Atlántico E*:Río Grande de Loiza S*:Carretera P.R.# 3 O*:Caño Blasina	Se refiere exclusivamente a los terrenos propiedad del señor Luis Puro, en el sector Vacia Talega, con aprox. 700 cuerdas.	CFI: Compañía de Fomento Industrial JP: Junta de Planificación de Puerto Rico.
	AREA	9,785 cuerdas	927 cuerdas	indeterminada	indeterminada	CHSJ: Corporación Hotel El San Juan
	CONDICION SUELOS	La propuesta reconoce las limitaciones pero no hace sugerencias.	La propuesta reconoce las limitaciones pero no hace sugerencias.	La propuesta reconoce las limitaciones y recomienda rellenar hasta 6' sobre nivel del mar.	La propuesta reconoce las limitaciones y recomienda rellenar hasta 4'-6" sobre nivel del mar.	(D): No se ha podido reunir material gráfico de esta propuesta.
	PROBLEMA DE INUNDACIONES	Propone conectar canal desde el río Grande de Loíza hasta la zona de manglares mediante un sistema de exclusas.	Reconoce el problema pero no hace recomendaciones.	Recomienda la implementación de la propuesta "C" del Dr. Miguel A. Quiñones(*).	1)Aceptar la propuesta "C" del Dr.Quiñones. 2)Conectar el canal del Río Loíza a los que propone construir la JP.	(*)La alternativa "C" fué seleccionada por la JP como la más adecuada para controlar las inundaciones del Río Loíza con miras al futuro desarrollo de Vacia Talega.
	VALOR DE LA TIERRA	Estima para 1961 aprox. $ 5,000/acre. Luego del desarrollo estima $ 60,000/acre.		Propone aumentar el valor de las tierras no costaneras mediante la creación de canales a utilizarse transporte, recreación, paisajismo.		
	ASPECTOS ECOLOGICOS	1)Considera preservar playas, palmares y mangles. 2)Evitar contaminación de lagunas interiores 3)Considera el ruido de aviones	1)Mantener extensa zona de preservación de mangles y playas naturales 2)Considera el ruido de aviones.	1)Extensa zona de preservación de mangles y playas naturales. 2)Considera el ruido de aviones y supedita el desarrollo del sector a la no utilización para despegues de jet desde la nueva pista del aeropuerto.	1)Mantener alta proporción de áreas verdes en relación al área 2)Considera el ruido de aviones.	

POBLACION EXISTENTE	RELOCALIZACION:	En el sitio, pero también contempla el traslado a la zona metropolitana si la comunidad rechaza el emplazamiento que se propone al lado del Río Grande, frente a Loíza Aldea, en un conjunto de baja densidad para 2,000 personas.	En el sitio. Para las aprox. 1,300 personas propone la reubicación agrupada en un conjunto de baja densidad bien cerca de la actual Escuela Piñones o bien detrás de la estación de policía, en el sector La Torre. La construcción de las viviendas a cargo de la CRUV (*).	Ignora el problema. Supone que los pobladores serán relocalizados en algún sector del área metropolitana.	Hasta la fecha no hay invasores en estas tierras.
USOS DEL TERRENO PROPUESTOS	a) **VIVIENDA:**				
	Area de terreno dispuesta:	1,236 cuerdas	21 cuerdas (exclusivamente para relocalizar pobladores actuales).	Sin estimar	Sin estimar
	Criterios de localización:	Restringir este uso a zonas fáciles de desarrollar y servir.	Relocalizar en lugar aceptable a la comunidad.	Desarrollo a lo largo de los canales acuáticos propuestos (ver mapa de la propuesta)	En los terrenos de su propiedad, segregando en parcelas no menores de 15 cuerdas.
	Estrategia de desarrollo físico:	Punta Vacia Talega/Río Loíza, combinado con facilidades turísticas. En agrupamientos cerca de la playa pero detrás de la carretera. Idea de "New Town" (ver mapa de la propuesta).			Comenzar el desarrollo en Punta Vacia Talega extendiéndose luego hacia el Oeste.
	Número de unidades:	10,000 unidades	180 unidades	Indefinido	Indefinido
	Densidad:	Baja y media.	Baja (Zonificación R-4) 64 personas/cuerda.	Media. Alta	Según JP.
	Tipos de vivienda:	En hilera, con muelles para botes. En altura. En conjuntos de baja densidad (clusters).		En hilera. En altura.	Según JP.
	Agente desarrollador:	Empresas privadas y del gobierno.	Empresas del gobierno: CRUV, DOP, otras.	Empresas privadas y del gobierno.	Corporación Hotel El San Juan.
	Financiamiento:		Empresas del gobierno.		En base a la idea de hotel-condominio.

(*) Corporación de Renovación Urbana y Vivienda, agencia que promueve programas para habitación de familias de medios y bajos ingresos.

USOS DEL TERRENO PROPUESTOS (continúa)	a) VIVIENDA (cont.): Etapas de desarrollo	Propone dos etapas: 1) a 5 años. 2) de 15 a 20 años. Véase: Implementación de la propuesta, fases.			Propone dos etapas: Véase: Implementación de la propuesta, fases.
	b) INDUSTRIA:	No se contempla.	No se contempla.	No se contempla.	No se contempla.
	c) COMERCIO:				
	Criterios de localización	Alrededor de la Marina que se propone crear en Punta Vacia Talega.	Relocalización de los comercios existentes sin entrar en detalles.		
	Area estimada:	Aproximadamente 50 cuerdas.	Sin estimar.	Sin estimar.	Sin estimar.
	Tipo de comercios:	1) para residentes. 2) para turistas.		1) Distrito central de Negocios (bancos, oficinas, tiendas de artículos de lujo, restaurantes, etc.). 2) Tres grandes centros comerciales ubicados sobre la avenida principal. 3) Franja comercial a lo largo de un sector restringido de la avenida principal.	
	d) RECREACION:				
	Area estimada:	Aproximadamente 6,200 cuerdas, incluyendo las lagunas.	Sin estimar.	Aproximadamente 2,060 cuerdas.	
	Criterios de diseño:	Parque metropolitano. Desarrollo intensivo, control de altura, zonificación con mayor intensidad de desarrollo cerca de la carretera expreso y de la ruta escénica.	Parque regional y playa. Reserva forestal de mangles. Parque y centro comunal para las familias relocalizadas.	Parque metropolitano desarrollado para recreación activa. Desarrollo intensivo. Prohibición de construir en una franja de 100 m. de ancho a partir de la orilla del mar.	

USOS DEL TERRENO PROPUESTOS: (Continúa)	d) RECREACION (continúa):				
	Clases de recreación:	Parque metropolitano. Botes de vela y motor (segregados). Areas para pasadías. Teatro al aire libre. Museo. Marina. Acuario. Yatch Club. Jardín Zoológico, paseos de caballos.	Dos campos de golf. Casa club, marina. Acuario. Restaurantes. Areas para pasadías. Facilidades públicas en las playas (áreas de sombra, vestidores, etc.).	Integración de parques y espacios públicos al diseño urbano total. Centro de exposiciones, de convenciones, etc. Marina. Acuario. Restaurantes, etc.	
	e) TURISMO:				
	Area esti-	Aprox. 2,060 cuerdas para hoteles, en varios sectores.	Sin estimar.	Sin estimar.	Sin estimar.
	Criterios de diseño:	"Clusters" para evitar desarrollo lineal. Limitar altura de edificios evitando congestión en el camino costero y conservar el carácter natural del sect.	Dos hoteles de 500 habitaciones cada uno, a lo largo de la playa.	Desarrollar entre la playa y la avenida expreso propuesta. Proveer paseo público ("boardwalk") entre hoteles y playa.	Unidades de alto costo. (Hoteles de lujo).
	Etapas de desarrollo:	Véase: Implementación de la propuesta.			Véase: Implementación de la propuesta.
	Financiamiento:	Véase: Implementación de la propuesta.	A cargo de agencias del gobierno.	Empresas privadas y agencias del gobierno.	Véase: Implementación de la propuesta.
	f) INSTITUCIONES: (colegios, hospitales, etc)	Se reservan aprox. 720 cuerdas, en dos sectores (ver mapa de la propuesta).	Sin determinar.	Sin especificar.	Sin determinar.
	g) CIRCULACION				
	Area estimada:	20 % del área total urbanizada.	Sin estimar.	Sin estimar.	Sin estimar.
	Carreteras propuestas:	1) Expreso Este-Oeste. 2) Carretera secundaria	1) Carretera escénica (Ruta 158).	1) Carretera expreso 2) Avenidas principales,	De acuerdo al Plan Regulador de la JP.

USOS DEL TERRENO PROPUESTOS (continúa):	g) CIRCULACION Carreteras propuestas (continúa):	Escénica (costera), de diferente trazado a la propuesta por DOP(*), a partir de Vacía Talega hacia el Oeste, alejándose de la costa y no interfiriendo con Loíza aldea. 3) Carretera Norte-Sur vinculando las anteriores (ver mapa).	2) Calles secundarias en el área de recreación.	secundarias, etc. Alternativa I: Avenida escénica bordeando toda la extensión de playa. Alternativa II: La avenida corre detrás del sector urbanizado, paralela a la playa, excepto en pequeños tramos en que corre directamente frente a ella.	Pavimentación con un ancho de 7.20 metros de una carretera siguiendo la alineación de la de tierra existente hasta la intersección con la carretera periferal, según la Alternativa II del Plan Regulador de la JP.	(*) Departamento de Obras Públicas.
	Sistema rápido de transporte en masa:			La propuesta incluye una vía para el sistema de transportación masiva(°)		(°) T.U.S.Ç.A.
	transporte acuático:	1) Servicio de transporte por agua en las lagunas. 2) Segregación de botes de motor y de vela. 3) Facilidades de marina, yatch club, etc.	Canales acuáticos para uso público y de transporte con facilidades de marina.	Canales acuáticos para uso público y de transporte con facilidades recreativas generales.		
	circulación peatonal:	Se han considerado zonas peatonales exclusivamente.	Se han considerado zonas exclusivamente peatonales	Se han considerado zonas exclusivamente peatonales.		
	otras:	Paseos de caballos.	Paseos de caballos.			
SERVICIOS PUBLICOS:	AGUA:	La AAA (+) ha estimado factible el tendido de una red pública desde el Area Metropolitana. La proximidad de la zona a desarrollarse para vivienda al pueblo de Loíza facilitaría el servicio.	Prevé que un sistema de acueducto y otro de alcantarillado pluvial deberá ser encarado por la AAA (+).		1) Propone extender línea de pequeño diámetro desde Boca de Cangrejos hasta el proyecto. 2) Conectar a línea existente que sirve a Loíza 3) Para el futuro ampliar línea que servirá a Loíza de 18" a 25". 4) Relocalizar en el Río Loíza la planta de tratamiento proyectada para instalar a orillas del Caño Blasina.	(+) Autoridad de Acueductos y Alcantarillados.

SERVICIOS PUBLICOS: (continúa)	CLOACAS:	Sistema individual por "clusters" con tratamiento que impida contaminar ("outfalls") en lagunas y mangles.	No hace propuestas.	No hace propuestas.	No hace propuestas.
	CANALIZACION DE AGUAS PLUVIALES:	conectar el canal del Río Loíza con las lagunas naturales de la zona de Piñones por medio de exclusas especiales (no detalladas).	Dar prioridad a los proridad a los proyectos para control de las aguas.	Adopta la propuesta "C" para canalización del Río Loíza por el Dr. Quiñones(*). Se ha estimado el costo de estos trabajos en aprox. $ 33,370,000. Creación de canales acuáticos de 150 pies de ancho para drenaje, circulación y recreación que a la vez elevarán el valor de la tierra circundante.	Adopta la propuesta "C" (*). Adopta la propuesta (no oficial) del Secretario del DOP de conectar canal del río Loíza a los canales propuestos por la JP. Esto reduciría la sección del canal principal y su costo. Hay objeciones a esta idea desde el punto de vista ecológico.
CONSIDERACIONES DE DISEÑO:	OBJETIVOS DEL ESTUDIO	1) Utilizar lugares de atractivos naturales, cercanos a la metrópolis para satisfacer las necesidades recreativas y culturales futuras. 2) Estimular el desarrollo privado que refuerce la base económica. Mantener la inversión pública a nivel razonable. 3) Satisfacer necesidades generales de tierra metropolitana y permitir una expansión coherente hacia el Este.	Presentar un modelo para la distribución más apropiada de usos del terreno y circulación en la zona, que permita concebir un plan de relocalización de las familias residentes en el sector.		
	PRESUNCIONES:	1) No hay política definida para contener el crecimiento poblacional en la zona metropolitana. Solo se pretende guiarla con normas de densidad realistas.		No se utilizará la nueva pista del Aeropuerto Internacional para el despegue de aviones jet.	

(*) Dr. Miguel A. Quiñones y Asociados: "Loiza River Flood Control Studies". Preparado por encomienda de la JP en 1962.

CONSIDERACIONES DE DISEÑO (continúa):	PRESUNCIONES (cont.)	2) El área no tiene valor agrícola. 3) En los próximos 15/20 años, el aeropuerto sería relocalizado. 4) Debido a las inundaciones el desarrollo estaría limitado a los sectores elevados, natural o artificialmente, respecto al nivel del mar.			
	PRINCIPIOS DE DESARROLLO:	1) Se retiene tierra y agua de valor escénico para uso público. 2) Desarrollar intensivamente la tierra firme para uso recreativo público o privado. 3) La tierra desarrollable que no tiene demandas especiales de tranporte y recreación, se destina para expansión de la zona metropolitana, esencialmente para uso residencial pero balanceado con comercio local e instituciones regionales.	1) Mantener la zona como parque regional, forestal y playas para uso público. 2) Desarrollo parcial de facilidades de turismo. 3) Desarrollo residencial únicamente para las familias a relocalizar.	Mantener una gran zona como parque natural.	
	PRINCIPIOS DE PLANIFICACION DEL SITIO:	1) Lagunas y sus alrededores: preservar condiciones de quietud y escala. Control de altura de edificios circundantes y paisajismo. 2) Conjunto de hoteles: evitar un desarrollo tipo "Miami Beach" con conjuntos de gran densidad. 3) "Comunidad Talega": carácter urbano, denso, de límites precisos.	1) No establece un carácter definido para el parque. Inclinación a su uso como campos de golf. 2) Comunidad de familias relocalizadas: carácter de "aldea típica".	1) Zonas de parque para uso activo. 2) Area para desarrollo urbano con mayor densidad en los sectores que bordean los canales que se proponen. 3) Evitar los errores cometidos en el sector del Condado, estableciendo un límite a la construcción a los 100 metros de la orilla del mar.	Obtener alta densidad de desarrollo, manteniendo un porciento de ocupación del terreno determinado, para asegurar una buena proporción de áreas verdes.

IMPLEMENTACION DE LA PROPUESTA:	ADQUISICION Y CONTROLES	Política: Combinación de adquisiciones públicas y controles sobre desarrollo privado. 1) Comprar y hacer pública la región al Norte de la carretera Este-Oeste entre Boca de Cangrejos y la conexión central Norte-Sur. Tierra a desarrollar para ser alquilada o vendida con restricciones. 2) Adquisición pública de las tierras frente a la Punta Vacia Talega. 3) Entre la carretera escénica (costera) y el nuevo canal se segregan parcelas de 15 cuerdas para desarrollo privado. Revisión de proyectos: Complementando reglamentaciones. Coordinación entre las agencias gubernamentales involucradas.	Coordinación entre las agencias gubernamentales involucradas.	Coordinación entre las agencias gubernamentales involucradas.	
	FASES:	Desarrollo en 2 etapas: ETAPA 1: 5 años A) Adquisición de terrenos y control: 1) CPI o DOP adquirirán los terrenos privados entre carretera E-O y el mar; y primera conexión. 2) Crear parque público en Punta Vacia Talega y canales acuáticos. Comprar o restringir el uso de colinas. 3) Tierras para reservación y otros usos institucionales debe zonificarse. Terrenos entre carretera costera y nuevo canal para uso intensivo residencial en "clusters". 4) Adquisición por el DOP			Desarrollo en 2 etapas: ETAPA 1: 5 años A desarrollar aprox. 110 cuerdas localizadas en Punta Vacia Talega, con 5,000 unidades de hotel y residenciales. ETAPA 2: a completar en 15 años. Desarrollar el resto de la propiedad hasta alcanzar 8,000 unidades de hotel y 12,000 residenciales.

FASES (continúa): de los derechos de vía para las carrteras propuestas.

IMPLEMENTACION DE LA PROPUESTA (continúa):

B) Desarrollo vial:

1) Construcción de primer tramo de la carretera costera para usos recreativos y residenciales.

2) Construcción de primera sección de la carretera expreso Este-Oeste; solo 2 carriles primero; entre laguna San José y primera conexión N-S.

3) construcción de primera conexión N-S entre carretera costera y expreso E-O para formar un "loop".

C) Desarrollo del terreno:

1) Construcción de un gran hotel privado en el lugar llamado "Batería Lancaster" (próximo a Boca de Cangrejos), y desarrollo del parque público y playa adyacente.

2) Construcción de un conjunto residencial privado en laguna Piñones, incluyendo hoteles, cabañas y apartamentos para clase media.

3) Desarrollo privado de recreación comercial en el sector Sureste de la laguna Torrecilla.

4) Desarrollo por la Administración de Parques y Recreos Públicos de áreas para picnics, facilidades de navegación, etc., para uso público en los sectores de playa.

5) Primeras fases de desarrollo de la comunidad propuesta en Punta Vacia Talega.

	FASES (continúa):	D) Desarrollo acuático: 1) Adecuación a los usos previstos del sistema lacustre, reformando las lagunas Torrecilla y Piñones, ajustando la barrera de mangles y canalizando los sectores que impidan la comunicación dentro del sistema. 2) Fomentar usos de las facilidades acuáticas naturales o a crearse. Construcción de una marina pública en Boca de Cangrejos.
IMPLEMENTACION DE LA PROPUESTA (continúa):		ETAPA 2: 15 a 20 años. (Depende de la relocalización del aeropuerto). A) Adquisición y venta de terrenos: Adquisición por agencias públicas de aquellos terrenos, aún en manos privadas, que hayan sido propuestos para uso público. A su vez, venta de terrenos públicos para usos privados que cumplan estrictamente con los fines propuestos. B) Desarrollo vial: Construcción del resto de la red vial propuesta en el Plan General. C) Desarrollo de terrenos: 1) Desarrollo privado intenso de conjuntos comerciales y residenciales: nueva bahía en Vacía Talega y canal que la conecte a la laguna de Piñones. Canal y exclusas que conecten la bahía al Río Grande de Loíza.

APPENDIX D

COMPARATIVE ANALISIS OF THE THREE DEVELOPMENTS PROJECTS FOR THE TORRECILLA BAJA (PIÑONES) AREA:

A- "A plan for Boca de Cangrejos"
prepared by Adams, Howard and
Greely for the Industrial
Development Company, 1961

B-" A development plan and
recommended program for
FINCA PIÑONES", prepared
By Cpdas, Inc. for Puerto Rico
Industrial Development Company, 1968

C-" Proposed development of the
Boca Cangrejos-Vacía
Talega Area" prepared by
The Puerto Rico Planning Board, 1971

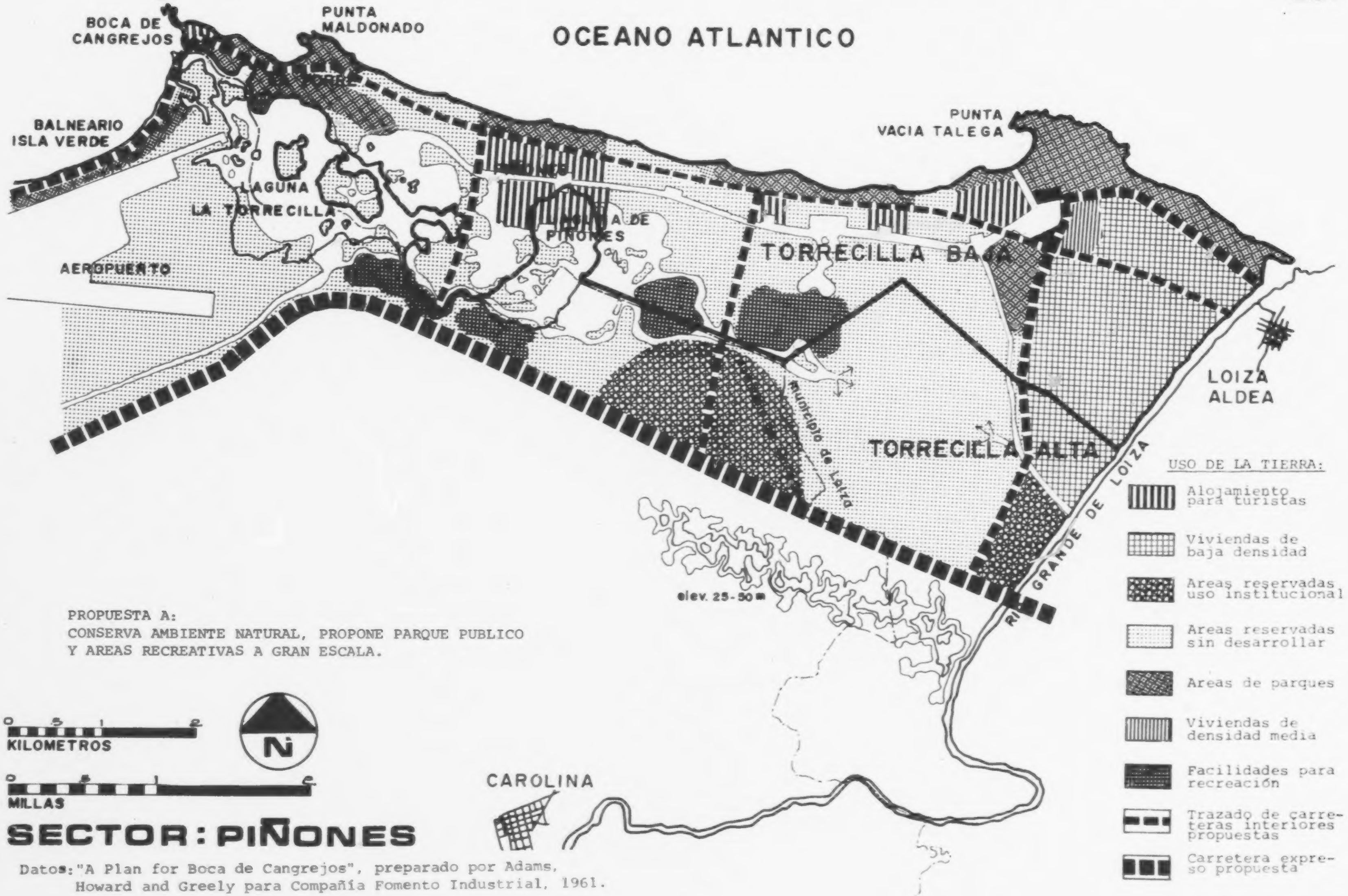
DEFINITION OF TERMS AND ABBREVIATIONS

Study Area	The Torrecilla Baja (Piñones) sector in the Municipality of Loíza, Puerto Rico.
Finca Piñones	Property within the Torrecilla Baja sector acquired by PRIDCO from the Puerto Rico Land Authority. Almost all the residents of the Torrecilla Baja sector live within the boundaries of this property. The residents' ownership rights to the plots of land they live in are being contested in court.
PRIDCO	Puerto Rico Industrial Development Company is a government department.
FOMENTO	Administración de Fomento Económico (Economic Development Administration). PRIDCO is a department of this Administration.
Condado, Isla Verde	Two sectors of the city of San Juan where most of the tourist hotel development is located fronting the beaches.
OPDAS, Inc.	Organization for Planning, Development, Administration, & Services, Inc.
CRUV	Corporación de Renovación Urbana y Vivienda (Urban Renewal and Housing Corporation).
Puerto Rico Properties, Inc.	Private Developers owning 1,300 acres in the Torrecilla Baja sector.
Finca La Marina	A CRUV project proposed for a plot of land on the southern edge of the San José Lagoon, San Juan.

NOTE: APPENDIX D Explanatory Notes are found at the end of document.

PROPUESTA A

3.1


OCEANO ATLANTICO
BOCA DE CANGREJOS
PUNTA MALDONADO
BALNEARIO ISLA VERDE
LAGUNA LA TORRECILLA
AEROPUERTO
LAGUNA DE PIÑONES
PUNTA VACIA TALEGA
TORRECILLA BAJA
TORRECILLA ALTA
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MILLAS
USO DE LA TIERRA:
Alojamiento para turistas
Viviendas de baja densidad
Areas reservadas uso institucional
Areas reservadas sin desarrollar
Areas de parques
Viviendas de densidad media
Facilidades para recreación
Trazado de carreteras interiores propuestas
Carretera expreso propuesta

PROPUESTA A:
CONSERVA AMBIENTE NATURAL, PROPONE PARQUE PUBLICO
Y AREAS RECREATIVAS A GRAN ESCALA.

SECTOR: PIÑONES

Datos: "A Plan for Boca de Cangrejos", preparado por Adams, Howard and Greely para Compañía Fomento Industrial, 1961.

ACQUISITION DATE

The property of Finca Piñones was bought by PRIDCO from the Land Authority on June 9, 1960.

I. ADAMS, HOWARD, GREELY PLANNING CONSULTANTS

It is presumed that the firm of Adams, Howard and Greely were contracted during 1960 to prepare a development plan of the area.

A GENERAL PLAN FOR THE BOCA DE CANGREJOS AREA

The plan was submitted to PRIDCO on February 28, 1961.

STUDY AREA

It is important to note than the plan extends far beyond PRIDCO's property.

Two reasons could have been in their consideration:
1) The office of Adams, Howard and Greely, when studying the area considered the physical boundaries, in this case the built up area, the mountains, the expressway, the river and the ocean, as the limits of the zone of influence of PRIDCO's property within this area and thus prepared a total plan 2) It is possible that Fomento at that time had greater ambitions with the total area.

ASSUMPTIONS

There are several assumptions which provide us with the thinkup behind the plan.

1)"It is assumed that there is to be no determined policy to restrain the population growth of Metropolitan San Juan, but only an intention to guide such growth along sound lines on the basis of realistic density standards."

2) "A policy of preventing urban growth from displacing agriculture is not appropiate for this area in view of the relatively low local agricultural efficiency and the higher development costs such a policy implies."

3) "While the facilities at the present International Airport can be expanded to meet the requirements likely to be demanded of it until 1930, within the next fifteen to twenty years it will be necessary to relocate it."

4) "In the absence of a flood control program -which would assure protection against future floods- it is assumed that new building development in the study area should be limited to sites on relatively high ground -either natural or man made."

5) "and that each cluster of intensive development should be required to provide its own sanitary sewer system, with adequate treatment facilities not involving outfalls in the swamp or lagoons."

6) "the metropolitan water supply system can be expected to provide piped water of sufficient quality and pressure to serve the needs of the area."

DEVELOPMENT PRINCIPLES

1) "Those land and water areas having unique scenic or recreational value are retained for public use."

2) "Solid land convenient to the beaches and lagoons and those parts of the mangrove swamp which can reasonably be developed are assigned to intensive recreational use, either public or private. The rest of the mangrove and open swamp areas are held in the natural form as public open reserve."

3) "The land which is readily buildable and has no special transportation or recreational demands upon it is proposed for general metropolitan expansion, primarily residential but balanced with local commercial and regional institutional areas."

PROPOSALS PARK

The major stressof the plan is the preservation of the natural environment and provision of a large scale public park and recreational areas. Approximately 600 acres (including lagoons) are proposed for this facility.

"This area is envisioned as a flexible reserve for recreational, cultural, tourist, and vacation housing development."

"Basically the plan consists of lagoons with activity clusters around their edges, the clusters being screened from the lagoon itself by mangrove islands and located along a peripheral waterway so that each one can come to the water's edge."

"The clusters should be intensively developed in order to justify the costs of reclamation and insect control, without building so high as to be visible above the mangrove screen or so densely as to lose the sense of a park."

TOURIST ACCOMMODATIONS

"About 200 acres are designated for this use providing ample room for the eighteen hundred hotel rooms that the Tourism Master Plan[1/] allocated for this area, and for several hundred vacation cottages besides."

The 200 acres would be separated into three areas: 1) on Battery Lancaster[2/] for an open resort type development; 2) the Finca Piñones area for rental accommodations cottages, vacation apartments, guest houses, etc.; 3) west of Vacía Talega for high-rise luxury hotels, cooperative apartments, etc.

The grouping together of these facilities is done for various reasons: "in providing variety and interest for visitors, are better able to support local supplementary facilities such as bars, shops, and restaurants, and prevent hotel development from extending all along the beach."

RESIDENTIAL

A new town is proposed south and east of Punta Vacía Talega and high-rise clusters west of the point. About 1,200 acres are proposed for residential use (including roads, schools, parks, etc.) housing about 10,000 families.

RELOCATION OF EXISTING RESIDENTS

"The problem of relocation for the people now living in the Cangrejos area[3] raises political and sociological issues for which there is no simple solution. The need to develop the area for the use of the Puerto Rican people as a whole, however, dictates that they must be relocated."

Several sites are proposed within the area but basically all have problems either of isolation or lack of facilities.

"From a physical planning point of view, the best solution seems to be the town of Carolina."

HIGHWAY SYSTEM

"The highway network in the study area must be considered from the point of view of regional routes for traffic between San Juan and the Fajardo region and of local routes for traffic serving the projected area."

PROPOSED REGIONAL GRID

"The proposed major highway system forms a large-scale grid, extensible to the entire eastern coastal plain. It connects at key points with the expressway system of the metropolitan area. These connections have been designed to provide as far as possible for equal choices by east-west traffic of routes leading into and out of the central city, both north and south of the San José Lagóon. All of the new highways should be designed to take maximum advantage of the many scenic features along their routes."

RECOMMENDATION

"The most effective method of control would, of course, be the acquisition by a public agency of all land in the study area, followed by the sale or lease of specific parcels to private developers for the designated uses -whether residential or recreational- with deed restrictions covering the desired controls over use, density, site design, etc."

DEVELOPMENT STAGES

STAGE I - LAND DEVELOPMENT

1) The construction of the hotel at Battery Lancaster and development of the park on adjoining land.

2) "Construction by private interests of the residential cluster at the head of the Piñones Lagoon,"

3) "Allocation to private interests and development of the site for commercial recreation on the southeast corner of the Torrecilla Lagoon."

4) Development by the Park and Recreation Authority of beaches, picnic areas, boating facilities, etc.

5) "Initial development of the community around the new lagoon may begin in the Punta Vacía Talega section."

HIGHWAY DEVELOPMENT

1) Construction of the first section of the Oceanic Highway eastward from Boca de Cangrejos.

2) Construction of the first section of the east-west expressway (Torrecilla Expressway) between the San José Lagoon and the first north-south cross link.

3) Construction of the first north-south cross link between the Ocean Highway and the expressway.

WATER DEVELOPMENT

Development of the lagoon system by re-shaping the Torrecilla and Piñones lagoons.

STAGE II -

The development of the remaining areas within the plan.

COMMENTS TO THE ADAMS, HOWARD & GREELEY REPORT

We feel that the proposed flexible reserve with the concentrated actitity will not "prevent hotel development from extending along the beach."

OPEN AREA

All development in Puerto Rico is controlled by the Puerto Rico Planning Board which is an office of the Governor and whose head is appointed by the Governor. Consequently, policies established for maintaining large open areas depend upon good faith of the politicians since there is no guarantee that these policies will be maintained (after any political change) by subsequent politicians.

Based on this we feel that cluster development in order to preserve large open areas isnot workable in Puerto Rico.

RESIDENTIAL AREA

The plan proposes a residential area of 1,200 acres for 10,000 families. At present the Planning Board plan for the area is for a 150,000 to 200,000 population when fully developed.

RELOCATION

No definite proposal is made in regards to the residents in the area other than that they should be relocated "to develop the area for the use of the Puerto Rican people." A more detailed field study is recommended in order to determine the individual family needs and their wants before selecting a solution or solutions.

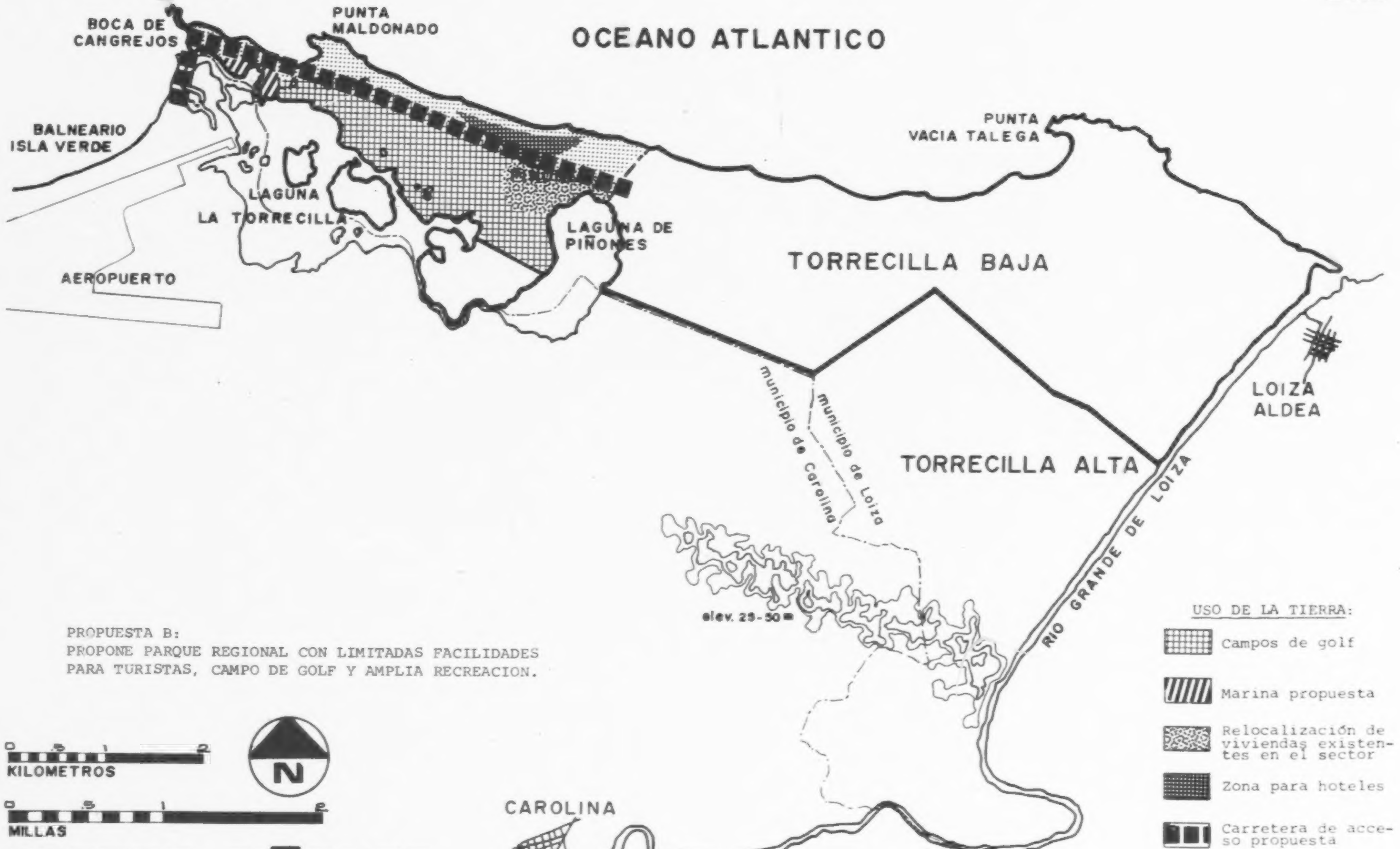
We feel that the argument for the relocation of the residents of the area is valid. The study deals adequately with this problem considering that its scope was to present a development scheme for the area.

HIGHWAY SYSTEM

"The proposed major highway system forms a large-scale grid, extensible to the entire eastern coastal plain." Sad as it seems we are undoubtedly going to be faced in the future with a metropolitan growth extending all the way to Fajardo. Present development trends support this.

PROPUESTA B

3.6


OCEANO ATLANTICO
BOCA DE CANGREJOS
PUNTA MALDONADO
BALNEARIO ISLA VERDE
LAGUNA LA TORRECILLA
AEROPUERTO
LAGUNA DE PIÑONES
PUNTA VACIA TALEGA
TORRECILLA BAJA
TORRECILLA ALTA
municipio de Carolina
municipio de Loiza
LOIZA ALDEA
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USO DE LA TIERRA:
▦ Campos de golf
▨ Marina propuesta
▩ Relocalización de viviendas existentes en el sector
■ Zona para hoteles
▮ Carretera de acceso propuesta

PROPUESTA B:
PROPONE PARQUE REGIONAL CON LIMITADAS FACILIDADES PARA TURISTAS, CAMPO DE GOLF Y AMPLIA RECREACION.

SECTOR: PIÑONES

Datos: "A Development Plan and Recommended Program for FINCA PIÑONES", preparado por OPDAS, Inc. para PRIDCO, 1968.

LAND ACQUISITION

The study presents an ambitious recommendation in that the government acquire all the private land within the study area. This might have been possible in 1961 when cost estimates were in the rough of \$5,000/acre undeveloped and \$60,000/acre developed beach front property (estimates by Adams, Howard and Greeley). Presently beach front developed is selling at \$250/m^2 or \$1,000,000/acre in the Condado area, and \$400,000/acre in the Isla Verde area. We can rightly assume that present acquisition, of the private land in the area, by the government would be out of the question.

STAGES OF DEVELOPMENT

The logical development expansion of the area would begin at Boca de Cangrejos and spread towards Punta Vacía Talega. Nevertheless, it is interesting to note that PRIDCO's property was recommended to be totally developed within the first stage of the proposal.

II. OPDAS, INC.

On November 28, 1967, PRIDCO contracted OPDAS, INC. (Organization for Planning, Development, Administration and Services) group to do a study of the Finca Piñones area.

The study was completed in July 1968. The study consists of three parts: 1) Socio-economic Study; 2) Legal Study; 3) Planning and Relocation Study.

The study is basically aimed at an analysis of the status of the residents within the Finca Piñones; their socio-economic standing, legal rights to possesion of their homestead, and possible solution to the relocation of the families in order to profitably develop the property.

The study is one of thorough details both in the socio-economic aspect done by field survey as well as in in the legal aspect.

FIELD SURVEY DATA

1) A prevailing Family Income and Composition was

70% of the houses had electricity which is readily available in the area.

TENURE

According to the survey, of the total number of 161 families in the area, 109 lived there more than 30 years; 17 more than 20 years, 2 more than 15 years; 21 more than 10 years.

LEGAL STUDY

PURPOSE

"The legal study was made to determine the property rights that the families may have over the land where their dwellings are located."

FINDINGS OF THE STUDY

"It shows that at the present time in the opinion of our legal counsels they do not have any such rights."

PROPOSED ACTION

"Based on the above referred legal study and first hand knowledge of the conditions surrounding the Piñoñes Case, we suggest that the following action be taken: 1) Send notarial notification to each and every one of the squatters [4] to interrupt the possible extraordinary prescription (Prescripción Extraordinaria) Civil Code Art. 1847; 2) Enclose the area presently occupied by the squatters to prevent new con construction; 3) Prohibit improvements to existing structures; 4) Condemn vacant structures; 5) Post signs all over the study area indicating it is a PRIDCO owned property; 6) Notify the Police Department as soon as any additional structure is started."

PLANNING AND RELOCATION STUDY

PURPOSE

"The purpose of this report is two-fold: First, it presents a concept for the most appropiate pattern of land use and circulation in the area in order that a relocation plan, also presented herein, for the families residing in the area be properly conceived. Second, the report provides a formal basis for review by PRIDCO and other public agencies in order that major policy decisions regarding the development of this area may be made."

BASIC RECOMMENDATIONS

"Our basic recommendations are that the area be developed primarily as a regional park, leaving a great deal of the mangroves area in its natural state, including a golf course, limited tourist accommodations and providing informal recreational facilities. In addition, we recommend that the families now living in the area be relocated within the area near the existing Piñones school and that the relocation facilities cons sist of a mutual -aid self-help program to accommodate the 161 odd resident families."

RECOMMENDED DEVELOPMENT OBJECTIVES

"1. Development of the area on a low-intensity basis in view of its natural, scenic beauty, its proximity to the airport and poor sub-soil conditions.

2. Maximum preservation of areas having natural beauty such as beach, mangroves and water areas.

3. Development of recreational and other leisure-time facilities again, as a reflection of its great natural, scenic beauty and proximity.

4. Development of tourist accommodations.

5. Development of parkway and scenic highway for Route 187.

6. Development of Battery Lancaster area considered open; e.g. Sea Aquarium, Restaurant, Marina are not necessarily accepted as given.

7. Development of Quarantine Station elsewhere." (Quarantine Station at that time was considered for the area by the Department of Agriculture.)

"8. Development of relocation facilities in form of "aldea" within the area." 6/

DEVELOPMENT PLANS

ALTERNATIVE I

In Alternative I most of the available land in the area is used for a three 18-hole golf course.

The density of the population would be the lowest of th three alternatives since families are recommended to be relocated out of the area.

This plan would mean the "continuance of much of the scenic beauty in the area even though the mangroves would be eliminated."

ALTERNATIVE II

The area is proposed primarily for a Regional Park.

Residents would be relocated into an "urbanization" near the present police stables.

The eastern part of the area would be developed as "naturally as possible with trails, scenic road and picnic areas."

An 18 hole golf course is proposed within the park area.

ALTERNATIVE III

Again a regional park is proposed but with two-500 rooms hotels with tourist facilities including two 18 hole golf courses.

The residents would be relocated near the present Piñones school.

RELOCATION PROGRAM

The study goes into detail as to the various relocation facilities available for the residents of the area based on the detailed field survey of their socio-economic condition.

AVAILABLE PROGRAMS

The Commonwealth government has several housing programs at its disposal to provide relocation facilities for families in accordance with their income, preferences and program priorities.

These programs include:

1. Federally asisted public housing.
2. Housing to be owned by the families.
   a) Low-cost housing to be built on lots with all essential services.
   b) Housing to be built through self-help or mutual aid on lots with some or all essential services.

RESIDENT PREFERENCES

Most of the families within the area will be elegible for low-cost housing and middle income condominiums.

Nevertheless, most of the families expressed their preference for owning a house.

Only a few of the families expressed a preference for public housing, and those were usually double-up families that did not own a house. "The vast majority strongly expressed their wish to stay in the area."

COMMENTS TO THE OPDAS REPORT

From our examination of the legal study it appears to us that the whole case is built upon the statement that the residents did not expressed their claim to the land. Our field survey shows quite the contrary.[7]

RESIDENTS

Some aspects to consider:

109 families lived in the area more than 30 years [8] (field survey 1967). This means that these families

were there before the sale of the area by the Loíza Sugar Co. to the Fajardo Sugar Co. (Jan. 10, 1935). 136 families lived in the area more than 20 years. This again indicates that they were on the property before its acquisition by the Land Authority in June 27, 1949.

The question is: What were the intentions of the Land Authority towards these families and towards the land acquired in general?

TENURE

To us it seems hardly fair that the people left to live on the land for more than 30 years all of a sudden are blamed for this fact and accused of blocking progress.

We feel the fault in this case lies with the previous owners and the government agencies for having permitted this situation to continue for such a length of time.

REGIONAL PARK

We feel doubtful and fearful whether an informal recreational Regional Park intermixed with tourist hotels and facilities would remain a Regional Park for long without eventually being totally developed as one huge tourist hotel and facilities area.

CONSERVATION OF MANGROVES

Objective number two states:

"Maximum preservation of areas having natural beauty such as beach, mangroves and water areas."

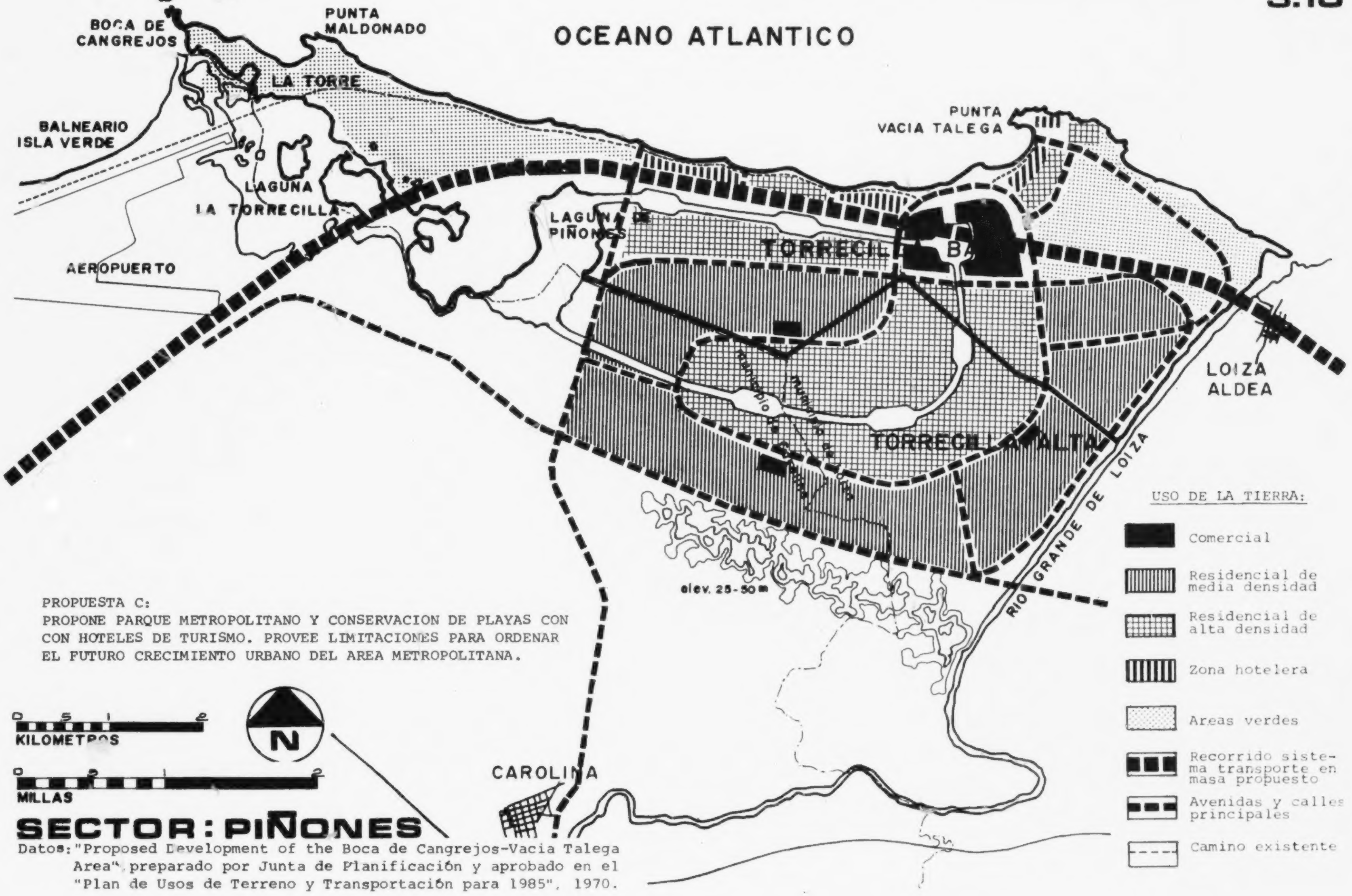
Nevertheless, upon examining the alternatives proposed we find that mangroves are generally eliminated especially in Alternative One in which they are eliminated completely.

ALDEA TIPICA

We strongly object to the proposal of hearding the people into an "aldea típica".

PROPUESTA C

3.10



OCEANO ATLANTICO
BOCA DE CANGREJOS
PUNTA MALDONADO
LA TORRE
BALNEARIO ISLA VERDE
LAGUNA LA TORRECILLA
AEROPUERTO
LAGUNA DE PIÑONES
PUNTA VACIA TALEGA
TORRECILLA BAJA
TORRECILLA ALTA
municipio de Loiza
municipio de Carolina
LOIZA ALDEA
RIO GRANDE DE LOIZA
elev. 25-50m
CAROLINA
USO DE LA TIERRA:
Comercial
Residencial de media densidad
Residencial de alta densidad
Zona hotelera
Areas verdes
Recorrido sistema transporte en masa propuesto
Avenidas y calles principales
Camino existente
0 .5 1 2
KILOMETROS
0 .5 1 2
MILLAS
N

PROPUESTA C:
PROPONE PARQUE METROPOLITANO Y CONSERVACION DE PLAYAS CON CON HOTELES DE TURISMO. PROVEE LIMITACIONES PARA ORDENAR EL FUTURO CRECIMIENTO URBANO DEL AREA METROPOLITANA.

SECTOR: PIÑONES

Datos: "Proposed Development of the Boca de Cangrejos-Vacia Talega Area", preparado por Junta de Planificación y aprobado en el "Plan de Usos de Terreno y Transportación para 1985", 1970.

Experience has taught us that this form of action creates more social problems than benefits to the people in these typical villages.[9]

III. PUERTO RICO PLANNING BOARD

A. SAN JUAN CHOICES FOR CHANGE

In a publication "San Juan Choices for Change" by the Puerto Rico Planning Board in September 1967, there are four alternatives proposed for the Metropolitan Area as to future land use organization for 1985. We shall only consider their proposals for the Vacía Talega Area in each alternative.

ALTERNATIVES

Alternative I - SPRAWL

In this alternative all of the flooded area eastward from Boca de Cangrejos to the Loíza River is proposed as an open space for recreation. Approximately 12,000 acres.

Alternative II - STRONG CENTER SANTURCE

All the area considered by the Adams, Howard and Greely Report is proposed for open space and recreation.

Alternative III - STRONG CENTER HATO REY

The proposal is the same as in Alternative II.

Alternative IV - MULTICENTER

The proposal is the same as in Alternative II.

NOTE: Schemes for these alternatives are not shown in our report. See flood map of area in APPENDIX C.

B. NEW DETAILED STUDY OF THE AREA

Apparently, either not satiffied with the previous recommendations for the area or pressured by the owners of the property within the area for a more advantageous plan, the Planning Board began to study the area in detail in 1968.

A new plan was drawn up and approved by the Planning Board on December 26, 1968.

This plan was the basis for the Alternative "C" (as appearing in our report) but in a more preliminary form.

SAN JUAN STAR NEWSPAPER

On December 27, 1970 the Vacía Talega Plan was published on the front page of the newspaper San Juan Star.

Although intended as a general development plan for the area extending from Boca de Cangrejos to the Loíza River, the various newspapers concentrated their reporting on the fate of the Piñones residents assuming that they would be moved out of the area to make room for tourist hotels.

The plan proposed all of the area between Boca de Cangrejos and the Piñones Lagoon (where the residents are dwelling) for a Metropolitan Park. No hotels were proposed in this area and no mention was made as to residents relocation.

The controversy reached such polititial proportions that the Planning Board was picketed by the residents of Piñones.

C. SAN JUAN METROPOLITAN AREA MASTER PLAN

During 1971, the Planning Board approved the Master Plan for the San Juan Metropolitan Area. The plan has been signed as approved by the Governor.

Included in this Master Plan was the Vacía Talega Plan.

The plan proposes the area between Boca de Cangrejos and the Piñones Lagoon for open space and recreation.

PUBLIC HEARINGS

Before the final approval of the Master Plan, public hearings were held in all the municipalities which are included within the Plan except in Loíza Aldea, which became a municipality during 1971 but will only become effective as such after the coming 1972 elections.[10]

It would appear that public hearings should have been held on Vacía Talega in Loíza Aldea, but this was not done and is questionable whether they will be held at all since the Master Plan has already been signed and approved as law by the Governor.

No party as yet has challenged or questioned this dilemma.

D. VACIA TALEGA STUDY

In October 1971, the Planning Board published a study "Proposed Development of the Boca de Cangrejos-Vacía Talega Area". (This is presented in our report as Alternative "C".)

TWO ALTERNATIVES

There are two alternatives proposed in the Vacía Talega Plan.

"They are identical except for the alignment of the beach front road."

"Alternative I has the road running along the entire beach front to the point of Vacía Talega where it turns along the present alignment."

Alternative II - "The road runs behind beach front development except for short loops, but pedestrian walks border the beach for its entire length."

The Vacía Talega Plan favors Alternative I stating:

"Some developers object to Alternative I and are not willing to built under these conditions, stating that to be successful, tourist hotels must front directly on the beach.

This is acceptable only for isolated hotels in rural areas. The Boca de Cangrejos-Vacía Talega Area, however, is urban. The beach is to be reserved for public use and should not be encroached upon by private development. The French and Italian Rivieras and the Copacabana and Ipanema areas of Río de Janeiro, Brazil, offer examples of successful combinations of public beach and urban resort hotel development where no development is permitted directly on the beach."

CONTENTS OF STUDY

The study consists of eight parts which present a complete picture of the area from the physical point of view only.

The parts are:

ANALYSIS FOR ITS POTENTIAL FOR FUTURE NEEDS OF METROPOLITAN GROWTH

GOALS OF STUDY

There are five needs stated in this part which become the goals of the study:

a.) Metropolitan Park to serve 1,000,000 persons.

b.) Conservation of beaches to be available to the public.

c.) Provision for tourist hotel development.

d.) Prevention of urban sprawl and provision for orderly expansion of the urban area.

e.) Prevention of flooding of the area.

The needs are then considered in terms of land requirement, area available, limiting considerations, solutions.

All of this is presented in table form on one page of the Vacía Talega Report.

LAND EVALUATION

The total land area is subdivided into four parts and each is evaluated in terms of its natural beauty, ownership and potential for development.

METROPOLITAN PARK

Area I - The ideal area for a Metropolitan Park. This is the area between Boca de Cangrejos and the Piñones Lagoon.

The difficulties presented are: 1) The area is directly under the airplante take-off pattern. All the area is subject to 80 decibels or more with a large part above 100 decibels. Passive recreation is definitely out.

RESIDENTS OF THE AREA

2) The residents of the area are reluctant to move. It has been proposed to create a residential area for them a short distance from their present location."

COMMENTS

This is theyonly mention on the topic of relocation of residents in the whole report.

We assume that the Planning Board is very well acquainted with this problem of the residents but purposely stayed out of the topic and concentrated on the physical proposal of the plan.

AREA FOR DEVELOPMENT

After separating the areas for public used as parks or open space the remaining area is proposed for development. Approximately 5,6000 acreas.

DESIGN CONSIDERATIONS

The following are quotations from the report

"The plan must be completely integrated. It should be such that any changes must require reconsideration of the functionality of the total plan.

POLITICAL CONSIDERATIONS

Implementation of the plan must not depend upon the good faith of the various parties. Once established policies should be firmly adhered to regardless of political change. One reason why high density clusters are not feasible in the long run in this area is that while the preservation of large open spaces between developments can be enforced at present, there is no guarantee that future governments, pressured by high land costs, will not permit the development of these open spaces.

BEACHES

The present controversy concerning beaches being public ownership of all Puerto Ricans must carefully be considered.[11] The design errors of the Condado cannot be repeated. A new maritime construction limit must be set at a minimum of 100 meters from the water's edge. No construction should be permitted in this zone. A public right of way must be established along the beach: at least 50% of its length should be a pedestrian promenade. Segregation of beaches for hotels should not be permitted.

PARKS

Public parks and open spaces within the development area must be designed for specific uses, landscaped and equipped by the developer.

TRANSPORTATION

Future residents of the area must be given a choice among modes of transportation and not be totally dependent on the automobile. Pedestrian trails, bycicles paths, and boat channels must be part of the circulation system whithin the area.

TYPE OF DEVELOPMENT

Low density must not be permitted in the area. The present monotonous urbanizations of similar houses must not be permitted. The superblock concept should be the desired form of development."

AIRCRAFT NOISE CONTOURS

The Vacía Talega Report assumes that the International Airport will remain in its present location.

RESTRICTIONS TO THE AIRPORT

The study recommends that restrictions should be placed on the operation of the airport in that take-offs be limited to the existing north runway. The new south runway should serve for landings only. Should take-offs be allowed off the south runway then all of the development area would be affected.

RECOMMENDATIONS

Consequently, "to permit the development of a residential area in a 100 or 80 decibels noise zone would be foolish. Consequently, take-offs will have to be limited to the existing (north) runway if the area is to be developed."

FLOODABLE AREA

All of the study area is flooded because of 3 natural conditions: a) the low elevation of the area, b) the large water shed (273 square miles) which under heavy rain conditions can produce a tremendous water discharge equivalent to twice that of Niagara Falls, c) hurricane tides which are of the order of 4 to 6 feet.

Consequently all of the area will have to be filled to a minimum of 6 feet above Mean Sea Level.

PROPOSED FLOOD CONTROL

Unfortunately because of the large discharge or water, a channel 300 meters wide is required as a solution. This definitely will remain as a large scar on the countryside.

APPROPIATION OF COST

It is evident that the government cannot afford such an expense nor should it do so when the benefits are going to be reaped by the various land owners.

RECOMMENDATIONS

It is recommended by the Vacía Talega Report that the owners of the land within the area "should absorb an equitable part of the cost of construction of the flood control channel."

LAND OWNERSHIP - GOVERNMENT

Within the area proposed for development there are approximately 1,280 acres belonging to the Land Authority and approximately 680 acres belonging to Fomento.

RECOMMENDATIONS

It is recommended that the north eastern part of the area, proposed for a park, be obtained by form of [illegible] barter thus avoiding the costly process of expropiation. Expropiation nevertheless will seem necessary for the owners who would not accept another property in exchange.

LAND OWNERS - PRIVATE

There are 23 land owners in the entire area of which 15 are located within the north-eastern sector proposed as a park.

FEASIBILITY OF THE PROPOSED PLAN

It is this small number of land owners (8 for 5,650 acres) that make the implementation of the Plan a realistic proposal.

PROPOSED LAND USE

DESIGN FACTORS

"Two major factors from the basis of the design of the area. One is the practicality of a linear development and the second is the efficiency of a loop systems for transportation. The linear development system is centered along the main avenue with the channel as the limit on one side and the expressway on the other. This takes the form of a loop whose two ends meet to form the C.B.D. (Central Business District).

TRAFFIC CONSIDERATIONS

The residential development between the north channel and the beach will consist in greater part of guest houses and hotels. Consequently, the majority of the population will be transient and will not require the same traffic consideration that is given to the residents within the expressway loop."

COMMERCE

Three types of commerce are proposed: C.B.D., three shopping plazas and strip commercial along the main avenue. Gasoline stations and repair garages along the main avenue are not to be allowed.

CENTRAL BUSINESS DISTRICT

"As the C.B.D. is the most active area, it is placed near the ocean. It contains a large public space and can be reached by automobile, boat, public transit and mass transit. The C.B.D. is surrounded by high density residential and hotel developments and focuses on major elements of the island - the ocean and island waterways. The luxury shopping would serve both the residents and the tourists, being easily accessible to both. Careful design of the area is mandaroty. The pedestrian circulation must be given priority with all vehicular activity limited to the periphery. The view out to the ocean must be preserved, preferably by a large plaza that would unite the internal lagoon with the ocean."

CHANNEL

"The channel will be a major feature of the area. It will serve several purposes. Its creation will provide large quantities of fill material, thereafter it will serve as a major drainage of rainwater; it will provide boating and recreational facilties and it will maintain a relatively high land value of the surrounding property. A controlled flow pipe should be installed to connect the channel with the Loíza River, providing a continuous supply of fresh water to maintain circulation. The channel should be at least 150 feet wide so it can be used both by private pleasure boats and by public transportation. The edges of the channel will be maintained as a continuous park with pedestrian and bycicle paths."

COMMENTS

At present, the Planning Board has adopted the Alternative II of the Vacía Talega Plan.

We regret this approval as it indicates a weak stand on the part of the Planning Board in dealing with the hotel developers. It is also the first step in the direction in which the reality of a beach front road becomes doubtful. This is important as it indicates whether the area will be developed on good sound planning principles or fall into the same category as the Condado and Isla Verde areas -present development trends.

Unless the Planning Board takes a firm stand on the development of the area according to plan we are unlikely to see a public beach, or a beach front road or a pedestrian walk -not to mention the proposed Plan for the area- become a reality for the people of Puerto Rico.

PRESENT SITUATION

Although FOMENTO has every intention of removing the people out of the area, it nevertheless, finds itself in a complicated court procedure. Fomento is in court eviction of the residents within the area.

RESIDENTS VS. FOMENTO

The residents are, at the same time, in court to obtain title to their parcels. They are being represented by the Legal Services Corporation.

No legal action is being taken at present against the residents for improving their houses unless requested by FOMENTO. But the people have lost the fear of arrest and new construction and home improvements are noted everywhere.

Nevertheless, FOMENTO is definitely intent upon developing the area but does not want to be responsible for the cost of relocation of the affected families. FOMENTO feels the responsibility lies with CRUV.

CRUV

CRUV on the other hand does not have the residents of Piñones on any future program or schedule.

COST OF RELOCATION

The cost involved in the possible relocation of the 200 families would be approximately $2,000,000 at $10,000 per family.

IV. PUERTO RICO PROPERTIES, INC.

During late 1970, the Planning Board approved an ubication for hotel development of 200 acres (ut of a property lf 1,300 acres), on Punta Vacía Talega, by the Puerto Rico Properties, Inc.

Although a preliminary plan is required to be submitted within 90 days after the ubication approval, up to date, no preliminary approval has been granted but the case is still open.

PROBLEMS

The major obstacle to developing a hotel development on Punta Vacía Talega is the absence of an access road. To our knowledge, Puerto Rico Properties, Inc. have offered $1,400,000 to the Highways Authority to construct the needed road (the Highways Authority does not have this road on any priority).

The drawback on the access road is that it will have to be built through FOMENTO's property and thus open the area to possible squatter invasions. It is obvious that FOMENTO is reluctant to have this road constructed.12/

All these factors combined present a rather difficult obstacle for the Puerto Rico Properties development.

GENERAL COMMENTS

It is evident that the unresolved problem of land rights of the Piñones residents is holding back any development within the area. However, because of election year policies, we are certain that no action will be taken against the residents for the time being.

But the present dead-lock situation cannot remain forever. The potential value of the developed property is very high.

If we consider $50 per square meter as an average, then the concerned 5,650 acres would amount to $1,130,000,000. 13/

CONSIDERATIONS ON THE PRESERVATION OF ECOLOGY BY THE DIFFERENT PROPOSALS

PRESERVATION OF ECOLOGY

A PLAN FOR BOCA DE CANGREJOS, By Adams, Howard & Greely

To create a large scale public park on the natural existing beauty of the area. Unifying concept is the preservation and enchantment of the area.

"A large metropolitan park and recreation reserve of approximately 6,000 acres (including lagoons) is proposed. This area, is envisioned as a flexible reserve for recreational, cultural, tourist and vacation housing development. Basically, the plan consists of lagoons with activity clusters around their edges, the clusters being screened from the lagoon itself by mangrove islands and located along a peripheral waterway so that each one can come to the water's edge.

The clusters are in general located on the best land available near the lagoons but will still need additional fill, either dredged or imported.

The clusters should be intensively developed in order to justify the cost for reclamation and insect control, without building so high as to be visible above the mangrove screen or so densely as to lose the sense of a park.

The Piñones Lagoon has been designated as a "quiet" lagoon. Here no noisy boats are allowed but small sailing boats, pedal boats, canoes, and electric boats could be utilized.

While the Piñones Lagoon is restricted to small quiet craft, the Torrecillas Lagoon and its new

Alternative III - A plan for a Regional Park with tourist facilities. This alternative proposes a regional park with two 500 rooms hotel with tourist facilities including two 18-hole golf courses. The plan indicates that most of the mangrove would be eliminated for the golf courses.

The golf courses would have to be build upon fill material since all of the mangrove area is under water. There is no indication whether this fill would be brought from the outside of the area or dug up within the area.

Should areas be left with mangroves then a very careful study must be made of the placing of the fill in order not to block the underground water flow otherwise the risk would be to loose the mangroves.

No mention is made in respect to insect control, although the area is proposed to be developed as naturally as possible with trails scenic roads and picnic areas.

PROPOSED DEVELOPMENT OF THE BOCA DE CANGREJOS VACIA TALEGA AREA

By: Puerto Rico Planning Board

The proposed plan deals in detail on the area proposed for residential, hotel, commercial development west of Piñones Lagoon.

The area between Boca de Cangrejos and Piñones Lagoon is proposed for a metropolitan park.

The study does not go into any detail, other than a marina location, on how this park is to be developed.

No mention is made of preservation of mangroves. The study does recommend preservation of the Vacía Talega point for its spectacular beauty.

Since all the area east of Piñones Lagoon is to be developed we assume that the mangroves will be eliminated totally.

A large water circulation channel is proposed though the developed residential area connecting to the metropolitan area through Piñones and Torrecillas Lagoons. The channel is proposed not only for recreational boating but for mass public transportation connecting the whole metropolitan area. The channel is recommended to have a minimum width of 150 feet.

The proposed water circulation will totally disrupt the present tranquil scene. Large channels will have to be dredged through both lagoons since presently the average depth is approximately 3 feet.

How will the mangroves survive through all this is questionable, especially considering the large boat circulation and the resulting wave action.

FACTORS TO CONSIDER IN RESPECT TO THE MANGROVES

> "Mangroves are salt and flood tolerant forests which develop on protected tropical shores, boys, tidol, estuaries and lagoons. Composed of four main species of trees, they form striking dense tangles of aerial roots along the waters edge. They depend on, and conserve the minerals and organize matter which arises from the flow of surface water from adjacent land areas. They are a refuge for many species of birds, some of which are seldom found elsewhere. Among the innundated roots of the trees a number of important attractive forms of marine life pass through their reproductive stages. Thus the mangroves are at the same time protective and a potential source of natural attraction for visitors and students".(1)

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1) "Common Trees of Puerto Rico and the Virgin Islands", by E. L. Little, Jr. & F. H. Wadsworth

As mentioned previously mangroves develop on protective tropical shores. There are no examples of mangrove growth in Puerto Rico in areas that are exposed to wave action.

It has been noticed by Frank Wadsworth that the mangroves immediately inland Boca de Cangrejos are in danger from the wave action produced by water skiing.

The part of the coast on which the sand dunes have been removed high waves have prenetrated inland carrying with them large quantities of sand. This sand deposited among the mangroves roots killed the trees.[14/]

The same effect could be produced when dredging the lagoons.

Large quantities of fill change the underground water flow with the result that the mangroves which are dependent on this water flow die. However, with time a new tree apparently adjusted to the new conditions should grow again.

This can be noted in Finca La Marina an area of approximately 650 acres where the mangroves were totally wiped out because of the fill process but now are coming back with a new dense growth along the waters edge.

It appears that there will not be any difficulty in incorporating the mangroves into a metropolitan park provided that they be protected from wave action and not cut off from both underground and surface water flow.

The solution lies in careful design.

An Ecological Study prepared by Prof. Candelas recommends that 1,000 feet of mangroves be left around the lagoon to maintain the natural biological balance of the ecology and the marine life.

Without sounding pessimistic we feel that although necessary for biological balance it will be very difficult to maintain the 1,000 feet around the lagoons from development.

Again a careful landscape design could achieve both, preservation of the mangroves necessary for the natural biological balance and development of the area for recreational use.

EXPLANATORY NOTES

1) The Tourism Department (a department of FOMENTO) has worked out a Master Plan for Puergo Rico where accommodation projections for this area are found.

2) Once a military strategic defense point (World War II). At the battery site an Aquarium presently stands.

3) Another name given to the Torrecilla Baja sector.

4) The use of the word "squatters" in the OPDAS report caused serious controversy.

5) New structures were kept on being built (whether to repalce old ones or accommodate members of growing families) as a means of challenging FOMENTO. Violators were fined a $10 fine, but arrests were seldom made.

6) The "aldea" (typical native village where the population would be relocated into) was strongly opposed by many people involved in the Piñones Case.

7) The field survey done by the research team from the School of Architecture (see Appendix C) in 1971 showed all the interviewed families claiming ownership to the land they occupied. This did not necessarily proved the OPDAS report incorrect, but it certainly showed that the residents were aware of the issues now. This awareness was due to factional politization.

8) By law, any resident of a plot of land that have lived on it for a period of 30 years or more (understanding that the land was his own or was meant to be his own eventually) is a legal owner of the land. The OPDAS survey showed, and later PRIDCO's legal stand is based mainly on this aspect, that the residents of Torrecilla Baja did not claimed ownership to the land when interviewed by the OPDAS researchers.

   In this particular aspect, the OPDAS report seems biased since it does not show the important fact that "more than 30 years" means for most of these families, having been on the land for generations. The report does not show the blood relationship between all these families living in the Torrecilla Baja sector either.

The 1971 research done by the School of Architecture found (and this conclusion could be backed up by an analisis of the physical development of the community) that due to: the higher rate of birth typical to low economic standard marginated communties such as the one in Torrecilla Baja, common intermarriage between families and strong family and racial tides, most of the residents in the sector could be traced back to the same original sources.

9) Almost all the residents of Torrecilla Baja are negroes. Herding them into a typical village within a tourist developed area had serious connotations.

10) As this report was typed to be presented to the U. S. Department of Health, Education and Welfare, general elections were held in Puerto Rico. The outcome of the elections seems to complicate the political issues for the Torrecilla Baja sector. The Municipality of Loíza, to which the sector belongs, was formally established with the elections, but then Loíza is one of the very few municipalities that the party kept control of while they lost complete control of the government machinery.

11) There has been a large amount of political controversy on the subject of public and private use of the beaches around Puerto Rico. Many hotel developments in urban areas have not been regulated to provide public access to the beaches they are blocking when constructing on the seashore. In rural areas, hotel developers have gone a step further by fencing in large sections of the seashore for the private beach use of their guests.

12) Invasion of public land has become a serious government problem in present Puerto Rico.

13) These figures have already gone up.

Explanatory Notes (Cont'd)

14. During the construction of the San Juan International Airport at Isla Verde in the 1950's, large quantities of sand used as fill for the runways were extracted from the shores of the Torrecilla Baja sector, The ecological changes and destruction of large areas of forest trees caused by this sand extraction, and the tidal intrussion that resulted has been irreparable. The cost of wave breakers to protect the existing road and continuous road repairs costs have been very high during all these years, specially to the residents of this sector.

APPENDIX E

ELECTIVE INTERDISCIPLINARY
COURSE "HOUSING AND THE COMMUNITY"

ELECTIVE COURSE PROPOSAL

ARCHITECTURE 373 - HOUSING AND THE COMMUNITY - 3 credits

Time Scheduled:	One semester, Saturdays - 8:00-11:00 am.
Participants:	4 Professors (One from each discipline: Planning, Social Sciences, Commercial Administration, Architecture)

Maximum of 40 students from the four disciplines
Members of the community.

OBJECTIVES

The course, for its development, proposes a close relationship with the communities. This proposal implies the establishment of interelated objectives at different levels such as -

Teaching Objectives

To emphasize on the process rather than on the results.

To introduce the community members (clients) into the educational process.

To allow the participation of the students in real experiences that would permit the integration of theory and practice in the multidisciplinary work team.

To place the students and the professors in contact with the needs of our low economic resources population.

To carry on investigative and documentative work on the subject of low income housing needs.

To foment and broaden the relationship between University and community.

Administrative (At University Level) Objectives

To promote the investigation, development and spread of knowledge through research work done with the participation of the community.

To promote the creation of a HOUSING AND URBAN SETTLEMENTS INVESTIGATION CENTER.

METHODOLOGY

A continuous study and work course, with the participation of members of a community, students and professors, based on the group free interaction and discussion of the identified community problems, their analisis, the formulation of alternative solutions and the proposal of implementation strategies.

CONTENTS

To provide a brief theorical bakcground on the Puerto Rican housing and urban settlements problems and their social, economic, political and physical concommitants. During the development of the course and as the practical experiences require it, the needed theory, analisis, objectives and action alternatives pertinent to each case will be provided.

To emphasize on the housing problem and its infrastructure and service needs, efficient land use and different types of land subdivision, optimum housing design within the community's socio-economic context, and the establishment of self help betterment programs and their implementation.

ORGANIZATION

1. Four working groups made up by members of the community a maximum of 10 students (at least one student from each discipline) and one professor.

2. Each group will work stationed in a sample community. The four professors will rotate from group to group.

3. Monthly meeting of the four working groups for discussion and analysis of work being done.

4. Discussion within each group of the community problems found, establishment of priorities and of a working program, implementation of possible solutions assigning

responsibilities to the group members.

5. Presentation of a final report of the work done during the semester by wach group. Evaluation of the work by the Professors..